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Medical Lib

JOURNAL
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Curriculum Suggestions*

MAURICE H. REES
Dean, University of Colorado School of Medicine, Denver

During recent years, the Association of American Medical Colleges has concerned itself, primarily, with the curriculum of the medical school. We have many times scrambled and reassembled the required courses, each time with a rather radical reduction in the required hours until the medical student has become, in some instances, almost a free lance, with permission to browse about as his fancy may direct.

Undoubtedly, our methods of teaching have been greatly improved, but there is still much to be desired in the coordinating and correlating of the various courses toward the end of producing better medical practitioners.

Many of our courses, especially in the laboratory years, are still taught with the apparent object of producing specialists in a particular branch of science. Most of us, I believe, feel that it is unwise to attempt to produce medical specialists during the undergraduate period. Is it not just as logical to say that it is unwise to attempt to produce laboratory specialists during the same period? This does not mean that we should not attempt to discover the exceptional student who shows special talent in a special field of science and direct him into that field by way of the graduate school rather than by way of the required courses in the medical school.

In most instances too much, rather than too little, laboratory work is given in our schools, or, possibly, I should say that too much of the laboratory work as now given has entirely too remote a bearing on the practice of medicine.

Our objective in the undergraduate courses should be to produce general practitioners of the highest type. All courses should be correlated to that end. The graduate school should make provision for the exceptional students who are prepared for specialization.

Rotating Internship Best

There appears to be a growing tendency on the part of some of our institutions to establish special internships. Usually such internships are

*President's Address, delivered at the Forty-second Annual Meeting of the Association of American Medical Colleges held in New Orleans, Nov. 30, Dec. 1-2, 1931.

the result of selfish motives on the part of the chief of the service. Staff members prefer to have the same assistants throughout the year, and they often forget that the internship is a training period and that it is not a method of giving cheap medical assistance to the staff. I believe that this Association should exert its influence in behalf of the rotating internship and I hope that the time will soon come when all state boards will require such an internship.

In our zeal to change the curriculum and do the unusual, are we overlooking anything which might be useful to us in producing better doctors of medicine?

Needs of the Practice of Medicine

It may be odious to compare our schools of medicine with manufacturing plants, nevertheless I believe that we might apply, with profit, some of the fundamental principles of these plants.

The successful manufacturing plant must make a careful study of its market and must constantly adjust itself to the changing conditions and the new demands.

Some studies have been made regarding our changing market and a great deal has been written, for the most part by the laity, regarding the changing attitude toward medical practice, but medical schools have done very little toward adjusting themselves and modifying their product to meet the rapidly changing conditions.

We all realize that there is at the present time a great unrest, on the part of both physicians and laity regarding the medical practice.

The physician is disturbed by a decrease in the number of his patients and by the fact that the patient's dollar must be divided with the hospital, the laboratory and the numerous specialties. The patient is disturbed because he finds that his dollar will not cover all that has been prescribed.

The physician sensing the attitude of the laity fears that state medicine will be forced on him. In fact, he realizes that state medicine and industrial medicine are already on him, but he does not know how to stop this tidal wave. He finds himself bound down by antiquated medical ethics and by a lack of training in medical economics, and medical etiquette. He finds that he is a very well trained scientist but a somewhat impractical one.

The Art of Medicine

In our adjustments of the curriculum have we not over-stressed the scientific training and neglected the training in the art of medicine. This important branch of medicine is being relegated to the nurse and to the social worker. I sometimes think that we might give our medical stu-

dents far better training if all teaching hospitals would discontinue their schools of nursing and replace the student nurse with medical students, thus giving the medical student an opportunity to learn how to treat the patient as well as the disease.

In most of our schools we say that the art of medicine is taught by example. Such examples are, I fear, entirely too rare, especially among the younger generation of clinical teachers. The tendency of this group of teachers is to teach only the science of medicine. They may have developed by experience the art of medicine when dealing with their private patients but they feel that it is unnecessary when dealing with the charity cases in teaching hospitals.

It might be wise for us to conduct classes in the art of medicine for members of our clinical faculties so that they may be prepared to teach by precept the art of medicine to our students. Since the art of medicine is so largely based on an understanding of the human mind and its influence on the body, we are hopeful that the newly developed fields of psychiatry will do much toward reestablishing the art of medicine in our schools.

Medical Economics

The field of medical economics has been almost completely ignored by our schools of medicine. There is a tendency to feel that such a subject is entirely too materialistic and that it should be beneath the notice of a scientific institution. We expect our graduates to make their economic adjustments by intuition or by the trial and error method. The average graduate has no conception of what is proper and equitable in medical and surgical fees. He knows little or nothing regarding hospital and laboratory charges.

The graduate cannot learn much from his association with older men in his profession since each one has developed a method of his own. Too often the beginner is advised to charge what the traffic will bear.

It seems reasonable that our students should expect us to give them some inkling as to what their services should be worth.

Medical Ethics and Medical Etiquette

We all have in our institutions courses on medical ethics. The subject matter of these courses has not been changed in the memory of any of my readers. In fact the code as now taught dates back into dim antiquity. We have made no attempt to change our code and make it applicable to present day requirements. It is true that there is much that is valuable in the old code, but there is more that should be relegated to history. Our medical teaching institutions should be the leaders in a

new order of things and we should teach a modern and up to date code of ethics.

Coupled with our teaching of medical ethics there should be definite and sound instruction in medical etiquette, or proper relation between physician and physician. Regardless of the fact that etiquette is for the most part applied common sense, I fear that our graduates are too often embarrassed by an improper understanding of what is right and what is wrong in their contact with their co-workers.

It is possible that I am throwing too much responsibility on our medical schools. We must, of course, depend on early training for developing a sound moral integrity and mental background. It is the responsibility of our admissions committees to select only the highest type of men and women for our schools, nevertheless it appears to me that it is our duty as medical teachers to train our students along all lines directly connected with medicine, which will better fit them to meet the problems of medical practice.

Conclusions

In conclusion permit me to summarize briefly the points raised in this paper:

1. All undergraduate courses should be correlated and directed toward the goal of producing a high type of general practitioner.
2. All graduates should be required to take a rotating internship.
3. Specialization should be more generally discouraged, especially during the first five years of practice.
4. Medical schools should become the leaders in developing a new, up to date, workable code of medical ethics.
5. Far more attention should be given to teaching the art of medicine.
6. Medical economics and medical etiquette should not be overlooked in our training of medical students.

I do not expect unanimous agreement with the above suggestions, but I do hope that some topics for future discussions in this Association may be culled from this brief address.

Incidence of Tuberculosis Among Medical Students*

WILLIAM PEPPER

Dean, School of Medicine, University of Pennsylvania, Philadelphia

At the Denver meeting of the Association, I mentioned some rather startling findings which we had noted at the University of Pennsylvania after making roentgenologic examinations of 279 college and 452 medical students during the session 1929-1930. I told you then that we intended to repeat these examinations of the medical students for a few years.

I had thought that before the time of this meeting I would have not only the results of the 1930-1931 examinations, but also those of the present year, 1931-1932. But, I am not able to give you more than the results of the first two years.

Dr. Eugene L. Opie, with his assistants, undertook this examination of our medical students, and my only connection with it has been to lend what encouragement I could to such an important investigation. Drs. Opie, McPhedran, Landis and Hetherington of the Henry Phipps Institute, University of Pennsylvania, reported the results of their first year's study made during the session 1929-1930 before the Association of American Physicians.

The results of the examinations made last year, during the session of 1930-1931, have been given to me by Dr. Opie, and I have made a chart combining the findings of the two years. The investigation has just started this year. All but one of our first year class have been given a tuberculin test, but the roentgenologic examinations have not yet been made. I have not included the results of the tuberculin tests in my chart.

During the session 1929-1930, among 236 college students, practically all of whom were premedical students, 85.6 per cent were positive; 99 first year medical students were 84.8 per cent positive; 103 second year students were 94.2 per cent positive; 126 third year students were 96 per cent positive and 111 fourth year students were 98.2 per cent positive. The total of 439 medical students were 93.6 per cent positive.

Last year, the results of the tuberculin test among the medical students were practically the same: the first year class showing 83.6 per cent positive and the fourth year class 99.2 per cent positive.

We thus see that the first year medical students show about the same percentage of positive tuberculin reactions as the premedical stu-

*Read at the Forty-second Annual Meeting of the Association of American Medical Colleges, held in New Orleans, Nov. 30, Dec. 1 and 2, 1931.

Result of Roentgenological Examination of Students of University of Pennsylvania

Students	Number Examined		Number with calcified nodules in lungs or lymph nodes		Number with latent apical tuberculosis		Number with manifest pulmonary tuberculosis		Number with latent apical plus number with manifest pulmonary tuberculosis.	
	1929-30	1930-31	1929-30	1930-31	1929-30	1930-31	1929-30	1930-31	1929-30	1930-31
College Freshmen	78	—	14=17.9%	—	1=1.2%	—	1=1.2%	—	2=2.5%	—
College Sophomores	79	—	15=18.9%	—	3=3.7%	—	0	—	3=3.7%	—
College Juniors	81	—	10=12.3%	—	3=3.7%	—	0	—	3=3.7%	—
College Seniors	41	—	5=12.1%	—	2=4.8%	—	0	—	2=4.8%	—
Law Seniors	—	83	—	3= 3.6%	—	7= 8.4%	—	1=1.2%	—	8= 9.6%
Dental, 3rd Year	—	83	—	5= 6.2%	—	10=12.4%	—	0	—	10=12.4%
Dental, 4th Year	—	45	—	9=20.0%	—	0	—	0	—	0
Medical, 1st year	98	122	24=24.4%	11= 9.0%	3= 3.0%	12= 9.8%	1=1%	0	4= 4.0%	12= 9.8%
Medical, 2nd Year	103	104	18=17.4%	26=25.0%	12=11.6%	6= 5.7%	0	1=1.0%	12=11.6%	7= 6.7%
Medical, 3rd Year	129	133	23=17.8%	20=15.0%	14=10.8%	16+2=13.5%	4=3.1%	1=0.7%	18=13.9%	19=14.2%
Medical, 4th Year	122	134	28=22.9%	21=15.6%	16=13.1%	16+2—13.4%	9=7.3%	5=3.7%	25=20.4%	23=17.1%
Nonmedical Colleges, 1929-1930 Others, 1930-1931	——490——		——61=12.4%——		——26=5.3%——		——2=0.4%——		——28=5.7%——	
Medical, 1930-1931	—	493	—	78=15.8%	—	50=10.1%	—	7=1.4%	—	57=11.5%

dents, but that in the fourth year, only 1, or 2 per cent, show a negative test. One hundred and nineteen of this winter's first year class showed 88.2 per cent positive reactions.

Much more important and significant, of course, are the roentgenologic examinations, and by referring to the chart you will note that we do not have as yet any explanation to offer for these figures. Studies made to ascertain from where those students with tubercular lesions came have not uncovered any clues. Our students handle specimens removed at autopsies made on tuberculous patients. Very much of our clinical teaching is done at the Philadelphia General Hospital which cares for a large number of tuberculous patients. But our medical students do not seem to be more liable to other ailments than the rest of the university students.

It seems to us to be worth while to continue these roentgenologic studies for some years to come, and I think that we should take some steps to see that the students take reasonable hygienic precautions after handling tubercular material or after having examined patients or even after having been in the hospital wards. I suppose we should try to see to it that medical students get some physical exercise.

This fall we have given the fourteen first year medical students who showed a negative tuberculin test a vaccine made from dead tubercle bacilli, hoping thereby to develop a positive reaction and an immunity.

Dr. J. Arthur Myers says[1] that at the University of Minnesota Medical School there have been a number of students who, until they had taken a special tuberculosis service, had been negative to the tuberculin test, but soon after entering on this service they became markedly allergic, as indicated by the test. He records the histories of five of these students who later developed clinical signs of tuberculosis.

Discussion

DR. J. M. H. ROWLAND (University of Maryland, Baltimore): I do not wish to discuss Dr. Pepper's very interesting and instructive paper. Certainly, the figures which he gives are startling to me and, I imagine, to nearly everybody.

I did wish to discuss for a minute or two the matter of the medical care of medical students. At the University of Maryland School of Medicine we seem to have exhibited little interest in the health of the medical students; at least, we had made no systematic attempt to take care of them. To my amazement, I found that this was true in many other schools.

We felt that this condition should be remedied. Many of the students who had become ill did not receive proper attention, or they would after varying periods of neglect send for their own physician or call one of the members of

1. Myers, J.: Recent Facts on Transmission of Tuberculosis, *J.A.M.A.*, Aug. 1, 1931.

the teaching staff of the university. Their selection of a faculty advisor was not always a wise one.

We endeavored to begin to correct the situation by taking care, first, of the incidental and current diseases of the students. We appointed, to act under the supervision of the Head of the Department of Medicine, a so-called director to serve half time at the university. His first business was, with the aid of a selected group of men from the teaching staff, to examine all the new students. He was furnished a secretary and an office and was the medical advisor to any student who became ill, treating those who could be treated in the office or at home, or sending them to various specialists or to the hospital.

The matter of hospitalization was our greatest trouble. The hospital was not able to care for them free of charge, and the Medical School feared to guarantee all the cost. We approached an insurance company and arranged with them to furnish us insurance for the hospitalization of our students, about 400 in number. They offered us a policy at a little less than $5 per student. This made the cost to the Medical School (which paid the premium) about $2,000.

The policy covered care in the hospital, a room at $6.50 per day; operating room fee, $10; anesthetic, $10; laboratory fee, $3; X-ray, from $2 to $5, the last four items being paid but once. Not more than $350 would be paid for any one student. This worked out fairly well last year, and they are giving us a policy again this year.

The report of the director shows that the number of visits paid by the 400 students to his office after the examinations had been made were 802. The number of students who received hospital treatment was only 19. The various consultations amounted to 124. The number of days' disability for the 400 students was 312, and the men who were found in such condition that it was thought advisable to ask them to leave school and not study medicine numbered only 2.

The chief diseases found among the students were:

Acute respiratory infections, 82 cases.
Dermatological affections, 20 cases.
Eye, Ear, Nose and Throat affections, 6 cases.
Bones and Joints diseases, 8 cases.
Surgical affections, 23 cases. (These surgical cases consisted mostly of appendectomies, herniotomies, fractures, automobile accidents, etc.).

We feel that as a start toward the medical care of medical students, it has been fairly satisfactory. We have not gone into the physical condition of the medical students quite as thoroughly as Dr. Pepper has, but we hope to be able to improve in this particular. While we are not doing very much about it, we feel that what we are doing is a tremendous advance on what we were doing, which was practically nothing at all.

Dr. W. H. MacCraken (Detroit College of Medicine and Surgery): We began some years ago with making physical examinations of our medical students. The plan we worked out is about as follows: We have in connection with our department of internal medicine a very capable man who is titled

Director of Students. We have close affiliation with the city hospitals in Detroit and we are able to hospitalize our students without expense either to them or to the medical school.

The instructions given the students are that when they are ill they are to report immediately to the college office. They are then referred to the Director of Students, who, after a preliminary examination, sends them to the appropriate member of the faculty for medical care. This medical or surgical care, as it may be, is given to the student by the member of the faculty designated without cost to the student.

Of course what we encountered right away, when we began these examinations, beginning with the freshman class, was tuberculosis. In Detroit we have much tuberculosis, but what we particularly have in Detroit is sinus disease. I do not suppose any of you have anything of that kind where you live, but as far as I know, everybody in Detroit has some sort of sinus infection.

We found that after the sinuses were taken care of, very many of these cases of very obvious pulmonary tuberculosis cleared up. The x-ray findings changed materially in a surprisingly short time, so that a lot of these chaps who apparently had an active tuberculosis improved amazingly and have been able to go on with their work.

I did not hear Dean Pepper say what they did with these students who showed evidence of a frank tuberculosis. We require them to leave school immediately, unless the case clears up. They go to the sanatorium maintained by the city of Detroit. We have several students there now.

Another point I want to make is this: A principal reason we find for asking the students to withdraw is mental breakdown. In our third and fourth year classes, for the last several years, we have had in each class from two to four students who have had to be hospitalized, and finally they had to be advised to give up any idea of a medical career.

Dr. B. C. H. Harvey (University of Chicago): Dr. Pepper's statement as to the result of this very thorough and careful investigation which he has made indicates that it is time for us, as an Association and for our schools individually, to pay more attention to the health of students. Clearly, it is time to do so, for neglect of the student's health is lamentable in the college and it becomes almost criminal in a medical school.

We wonder if the condition which his investigation has shown to exist in Philadelphia exists in the institutions with which each of us is connected. These results also are a challenge to us to find out the facts in connection with our own students, and if the facts in our schools should be anything like those that exist in Philadelphia, we will have to decide what we can do about it.

Clearly, the student health service in each of our institutions is deeply interested in this matter. It seems to me that each of us should see that the student health service of our institutions is furnished with a copy of this table because it is in itself the clearest indication we could have of the need for action.

Another thing that we might do is to bring to the attention of the students themselves the necessity of health examinations when they begin their work, and of repeated health examinations as they continue in college. Students, in

general, do not like to be required to have health examinations. The medical students do not like it. They do not like to take the time for it, and that is because they do not understand the need for it. They do not understand that along the line which they are following things like this are apt to be found.

I think this offers an opportunity to teach students the need of attending to their own health and of cooperating with the student health service. I think we might well publish in the students' papers in the various institutions a summary of Dr. Pepper's findings and use that as a means of encouraging them to take advantage of the health service provided.

DR. R. V. PATTERSON (Jefferson Medical College, Philadelphia): Perhaps our experience may be of some interest to you in connection with this subject of student health.

Eight or ten years ago, we instituted a plan for the examination of every student admitted to the college immediately after the opening of the session. This examination was voluntary on the part of the students. However, most of them availed themselves of the opportunity, but there were a few who did not appear for this examination.

Two years ago, we made the examination compulsory and every new student is examined by a faculty committee of which the professor of medicine is chairman.

Two years ago, in addition, we formulated a blank for an inquiry into the student's health. This blank has been sent to each student immediately after his acceptance. It calls for his medical history and an examination by his own physician. That blank has not proved of any considerable value, except in so far as it gives the medical history of the student. It is rather amazing how many students with obvious lesions are given a clear bill of health on this examination blank by his home physician. Really, as I say, the only value of it so far has been to get in advance the medical history of the student.

Of course, we have found tuberculosis in these examinations; many cases of unsuspected valvular disease of the heart; one or two cases of active syphilis, but the outstanding finding has been infected tonsils. We have noted that the cause of loss of time in the medical course has chiefly been occasioned by tonsillitis or by removal of tonsils after admission to the medical course around the holidays, or at other times, so much so that we contemplate with the next incoming class placing in this health blank the suggestion that a careful examination should be made with regard to the conditions of his tonsils, and that if found diseased, they should be removed before he enters his medical course.

It has seemed to me that the medical schools of the country—in that I include ourselves, of course—have been somewhat remiss in their attention to the health of the entering student, because certainly their physical fitness is one of the requirements for admission that ought to be enforced. It would lessen the number of those who break down and the correction of some of these disabilities before admission to the medical course would make for better work.

As has already been said, the medical schools themselves ought to take the lead in impressing on their own students the importance of physical fitness and the correction of such disabilities as can be corrected.

DR. WILLIAM PEPPER (University of Pennsylvania): This work which Dr. Opie and his colleagues started has proven valuable in a number of ways; one, of course, is to impress the university authorities with the importance of thorough student health examinations and improvement of the student health service. I am glad to say that it helped us to get a better student health service. It enabled us to charge, for the first time this year, a student's health fee. Previously, the university paid the necessary amount, or what they thought was the necessary amount, to look after the health of the students, but now, with a student's health fee, a considerable sum of money comes in each year, and we are able to conduct a much better student health service.

The work has also proven of educational value to the students. They have learned more about tuberculosis than they knew before; they have learned more about the value of routine health examinations than they had known in the past. So that, although this, perhaps, held us up as a horrible example, it has served its purpose, and I am also making use of it to stimulate all of us here to further efforts to improve the student health situation in our medical schools.

The question was asked what we did with some of these students with manifest tuberculosis. Some of them have been persuaded to go to sanatoria. Unfortunately, some of the men in the fourth year class, which had such a high incidence, were advised to do that but persisted in going out as interns, fearing that if they went to a sanatorium for a year and then applied for internship, the very fact that they had been in such an institution would prevent their getting a good intern service. So they took their chance and started in on their intern service. Whether they were wise in what they did, I do not know. I think it is doubtful. To persuade a man in his fourth year to stop for a year is the proper thing to do, but the boy is afraid that when it becomes known, he will not be taken on as an intern in the hospital to which he wants to go.

We have lost for the past ten years, I suppose, about three men a year who have had to stop some time during their course and go to a sanatorium. I had quite a list of names of men who broke down during their stay in the medical school, and also some who have broken down since they graduated, but it is not a complete list, because it is hard to check up on those who have been out of school four, five or more years.

Role of the Medical School in the Development of Character in the Medical Student*

PERCY T. MAGAN
President, College of Medical Evangelists, Los Angeles, Calif.

You have accorded me a great privilege and awarded me an undeserved honor in permitting me to speak on the "Rôle of the Medical School in the Development of Character." I feel a bit timid and somewhat out of place realizing that I am talking to men who have had a longer and far wider experience in the fundamentals involved in the making of a doctor than I can ever hope to attain. An immigrant, 16 years of age, I came to these shores not knowing one face from the Atlantic to the Pacific. Life was hard, and the path to better days was painful. Because of this it was not my lot to commence the study of medicine until middle life was reached.

But be we young or be we old in this work, to all of us come somber ponderings concerning what the womb of time may hold in the matter of life's record for those whose professional training is entrusted to our care and keeping. In our own heart's language, as from day to day we mingle with our students, we are asking ourselves unconsciously, perhaps, that question which men of an elder day brought forth at the time when John Baptist was born: "What manner of child shall this be?"

THE LEARNED PROFESSIONS

It is worth while taking note that the work of a physician is classified as a calling and as a profession. Why do we speak of the ministry, the law, and the healing art as professions? Contrawise why do we refer to men who operate department stores as being in mercantile business? We never talk of the mercantile profession. We do not designate a contractor as a professional man. And, again, a carpenter or a blacksmith is said to be a tradesman and his work a trade. Whence come these differences of nomenclature?

In the early days of the Christian era and on into the years of the Middle Ages the word "profession" was endowed with a religious or at least a semireligious or spiritual meaning. It is derived from the Latin pro meaning "before," and faeteor—to confess. The verb signified the act of profession, or declaring, as the profession of one's faith. Hence, the title of a great historic document of the sixteenth century—"The Augsburg Confession," and of another pronunciamento by the Presbyterian Church in 1647 known as the "Westminster Confession"

*Read at the Forty-second Annual Meeting of the Association of American Medical Colleges, held in New Orleans, Nov. 30, Dec. 1 and 2, 1931.

or Standards of Faith. In the Middle Ages, when a person bound himself to a sacred order of the Roman Catholic Church he was said to have professed that order.

In those days three, and only three, of life's lines of endeavor were considered sufficiently idealistic, altruistic and spiritual to be termed callings and professions.

1. The Ministry of the Word of God.
2. The Advocacy of the Law.
3. The Healing of the Sick.

During later times the word profession has been given a much wider scope. Only recently, in New York, I observed a sign over a shoe shine stand presided over by a colored brother: "Professor Johnson, Bootblack." But it was not ever thus. And it may be well for us who live in these intensely commercial and material times to meditate concerning the high and holy place accorded to the work of a physician in the days of the long ago. People looked for consecrated and sacrificial motives and lives in those whose duty it was to give aid and comfort during the agonized hours of birth, the fevered watches of disease, and the dark moments when the Angel of Death caused the life spark to flicker and fade. We cannot blame the tired voyager who pleads to be assured as to the character credentials of the pilot "who undertakes to guide the ship of life through the treacherous waters that narrowly separate the island of time from the mainland of eternity."

And the word "calling" is akin to the word "profession." It is defined as being "a solemn appointment, summons or vocation—felt in the heart." Both portray a higher walk in life than the ordinary occupation pursued merely for a living.

I number in my acquaintance two brothers who practice in a splendid community of well educated and prosperous people. They are graduates of the same school and have enjoyed the same privileges. They are both fine talent men, approximately equal in their scientific knowledge and professional skill. Both are engaging in manner and blessed with fine personalities. William, however, is much more popular than John. He is gayer—a better mixer, perhaps—has many more friends. But when it comes to patient clientele, John runs about 30 per cent ahead of William. I have thought on this very much, and in my own mind have settled the reason why. There is an indefinable element of sincerity, of a great and deep sympathy about John which, while it cannot be put into human language, flows forth and in some subtle manner inspires the sufferer's troubled heart. To the patient it says: Dr. John carries me on his heart; he will not allow anything to interfere with his

devoted conduct of my case. Be it weal or woe, I am filled with trustfulness whenever I am in his presence. And yet this divine trait in John's way is not anything one can demonstrate or describe. It resembles more what the Master once said: "The wind bloweth where it listeth, and thou hearest the sound thereof, but canst not tell whence it cometh or whither it goeth; so is every one that is born of the Spirit." Verily, as the late Admiral Lord John Fisher of the British Navy once quaintly put it, "Godly sincerity is better than fleshly wisdom."

Our Duty to Those Who Have Gone Before

There are two things we can give in gratitude to our forebears in the professional faith. One is to remember them. This is small. The other is to do, according to the measure of our power, the things they did. This is a continuing thing. It means the loyalty of our spirits to those visions and tasks which constituted the very essence of their lives. It means living and working that the faith which inspired them shall continue and increase in the earth.

The character and ideals of the great men of medicine bequeath to us a most enviable heritage. Sir Thomas Browne, John Hunter, Sir William Stokes, Joseph Lister, William Osler, and a host of others, were men of staunch character, of monumental ideals, of the finest ethics, and of adorably inspirational lives. It was Sir Thomas Browne who warned against approaching the temple of science with the soul of a money changer. It was Sydenham who cast in his lot with the Puritans, then regarded as the scum of the earth, rather than to surrender a faith he held dear. Angina pectoris claimed John Hunter's life, being incited by a fit of rage over the case of a student who he felt had been wronged. His pupils always deeply loved him and affectionately styled him "the dear man." No sage in medicine's lore ever wrote down grander commandments for the conduct of a physician than William Stokes:

"Never hold that you have any property in your patient; be tolerant with the sick in their restless desire to seek other advice; preserve your independence; eschew servility. As regards conduct in society, never allude to your success in practice. Be silent when quackery is discussed. Be tolerant when those who converse on medicine, while ignorant of its foundation, reject legitimate medicine. Never originate discussion on medical topics in conversation. As regards conduct towards the profession, consider first the patient, second your professional brother, lastly yourself. Be reticient, lest by a casual word upon the previous treatment of the case you inflict a stab in the dark on your brother's reputation."

To this grand galaxy add Lister—that magnificent Quaker; that

immovable rock of surgical righteousness. There are a host of others but time and space will not permit of even the briefest recital of their glorious lives.

THE RICH ANOINTING OF THE FATHERS

How now can we best instil the sacred fire and the holy anointing of the fathers into the hearts of the children? How shall these be impregnated with those divine characteristics which enabled great doctors of old to withstand the shock, the storm and the stress of their day? How shall a rugged integrity of soul and spirit be implanted within the sanctuary of their breasts? How shall they be taught to put on the whole armor of ethical righteousness so that they may be able to stand against the wiles of the Devil of unholy practice? How shall they be admonished that we wrestle not against innocent forms of harmless quackery but against gigantic systems of cultist evils, against spiritual wickedness in high places—Mary Baker Eddy—that Lydia Pinkham of the soul, and Amy Semple McPherson, the prima donna of medico-religious vaudeville; against the demon of the secret splitting of fees, against the lust to perform operations for alimony only, the lust of illegal abortions, against the sin that doth so easily beset the young practitioner of making unnecessary visits, against the temptations unlawfully to dispense liquor and narcotic prescriptions, as well as pitfalls unnameable of a thousand kindred ilk? In a word, how shall the student be nurtured into that manner of life which prefers to perish itself rather than to wrong a trusting patient by so much as the smallest jot or tiniest tittle?

It is from us, the Gamaliels, at whose feet they sit that they must learn to tread the straight and narrow path in all these things. It is from our lips and by our lives that the students of today must learn so to walk that they will be blameless before the carping laymen of our time.

QUARRELS MUST BE SHUNNED

How often are we accused of being a quarrelsome set amongst ourselves. Too often the indictment is true. It is through our precept and example that our students must imbibe the teaching of the immortal Lincoln:

"No man, resolved to make the most of himself, can spare time for personal contention. Still less can he afford to take all the consequences, including the vitiating of his temper and the loss of self-control. Yield larger things to which you can show no more than equal right; and yield lesser ones, though clearly your own. Better give your path to a dog than be bitten by him in contesting for your right. Even killing the dog would not cure the bite."

ON FAITH IN OUR STUDENTS

I hold that the first and greatest commandment prerequisite to the

successful inculcation of character is the manifestation by the teacher of deep sympathy with, and sincere confidence in, the student. This is not always easy, but it is fundamental. Like begets like. A spirit of distrust toward our pupils begets in them a spirit of antagonism and hate toward us. In the living out of a helpful confidence toward others our own prejudices and dislikes must never be permitted to appear. Students are not perfect, to be sure. It is our duty to make them more perfect. In order to do this we must constantly, what I term—see the student in vision. That is, we must think of him not as he is but as our faith sees him after we have wrought a better perfection in him. Don't you love those wondrous words "On Faith" from Tennyson's Ancient Sage:

Cleave ever to the sunnier side of doubt,
And cling to Faith beyond the forms of Faith!
She reels not in the storm of warring words,
She brightens at the clash of 'Yes' and 'No'.
She sees the best that glimmers through the worst,
She feels the sun is hid but for a night,
She spies the summer through the winter bud,
She tastes the fruit before the blossom falls,
She hears the lark within the songless egg,
She finds the fountain where they wail'd 'Mirage'!

But some in yonder city hold, my son,
That none but gods could build this house of ours,
So beautiful, vast, various, so beyond
All work of man, yet, like all work of man,
A beauty with defect—till That which knows,
And is not known, but felt through what we feel
Within ourselves is highest, shall descend
On this half-deed, and shape it at the last
According to the Highest in the Highest.

To be sure we cannot expect that all the seed which we sow will fall on good ground; some will fall on stony soil. It was the great apostle who wrote: "In a great house there are not only vessels of gold and silver, but also of wood and of earth; and some to honor, and some to dishonor." So it will ever be in the great medical house which forms the temple wherein we labor. We will always find it true that—

Some were born for great things
And some were born for small;
And of some it is not recorded
Why they were born at all.

Yes, I encourage myself betimes in the belief that fools are an

essential feature in the great scheme of creation. Why not? Was it not the cackling of some geese that saved Rome by apprizing the garrison that the foeman was at the gate?

Some students are difficult problems. They are hard to understand. It seems well nigh impossible to divine the cause of their actions—of their peculiar goings and comings. Yet, in the end, when treated with infinite patience, I have known many such to become fine doctors and fine men. You cannot move such to better things by your brains; but you may move them by your earnestness. Your own devotion to them will often work monumental changes in their character. Progress may be slow and at times we may be tempted to give up. But take courage from Clough's lines in "Say Not the Struggle Naught Availeth":

For while the tired waves vainly breaking
Seem here no painful inch to gain
Far back through creeks and inlets making
Comes silent flooding in, the main.
And not by eastern windows only
When daylight comes, comes in the light,
In front the sun climbs slow, how slowly—
But westward look, the land is bright.

Again, there is danger that we may be too ultraparticular as to who we admit and who we retain in our school. If we were as wise as Omniscience this might be safe procedure. But it is over this little matter of omniscience that most of us fall down. Was it not Dean Swift who satirized the vulgar exclusiveness of those who desired the infinite meadows of Heaven only to be frequented by the religious sect they adorned on earth:

We are God's chosen few!
All others will be damned!
There is no place in Heaven for you,
We can't have Heaven crammed!

Often it appeals to me that every medical faculty divides itself into two groups: The Puritans and the im-Puritans. For the most part the Puritans are the younger men. They seem to clamor for the blood of the recalcitrant student. I wonder betimes if the reason for this may not lie in the fact that they got away with so much during their school days that now, since they are finished, a feeling of remorse grips them and they sincerely opine that someone should be trounced for it. The older men are the im-Puritans; the fellows who have a broader and more kindly faith in the storm ridden sophomore.

As to Statistics

Nor is it possible always to appraise a student by figures and statistics. Undoubtedly, statistics have their value, but I believe their usefulness is greatly overestimated. Many a youth, judged by the standard of statistics, might be recorded as a bad risk and a complete failure. And yet an earnest spirit of helpfulness on the part of his teachers develops the good in him in a most remarkable way, gets him going and, in the end, he wins. It is written in the Great Book that King David of Israel was a man after God's own heart. There were only two deeds recorded of his life which brought down the wrath of the Eternal on his head: One was for loving another man's wife; the other for numbering the people, i.e., gathering statistics.

The Most Important Things

I often think that after all the most important qualifications the doctor should possess are not a knowledge of medicine at all, and they are not taught very effectively in medical colleges or elsewhere. These are character, sympathy, industry, charity, patience, economics, the spirit of consecrated service—in a word, the art of medicine, as it was once understood—medicine as inculcated by the Master. Medical students received much of this under the old preceptor method of teaching, long since discontinued. Little has been provided to take its place. After all, our students are but the lengthening shadows of ourselves. This is particularly true in bedside medicine. It is quite as true with the carefully trained, scientifically stuffed machine produced doctors of today as it was in those days when students starved to follow and absorb the personalities of great leaders. It was more the human qualities of the immortal Osler than his scientific attainments that endeared him to his disciples and patients. Fortunately, he was super-endowed with both a knowledge of the humanities and of the sciences. Many able medical teachers of today would be astonished to know what it is in themselves that particularly and permanently influences the lives of their students.

The Excellent Student Who Makes a Failure of Life

It is exceedingly difficult under modern conditions of teaching for a student who is not up to standard as far as the science of medicine is concerned to secure his diploma and pass the examination required of his State Board. It is rare that such an one ever gets out into the field of practice. On the other hand, it is frequently the case that a man is permitted to finish the course of study who is woefully deficient in the art of medicine. He may have good scientific knowledge; but he is a dismal and abysmal nobody in the community—and the chiropractor and the osteopath annex his flock. He is hopelessly devoid of what I

once heard styled "the gift of people." To aid young men to acquire those graces and charms of heart, soul and manner which when coupled by a humble simplicity to a sterling and incorruptible integrity constitute the most vital factors making for life's success—to plant the student's feet, I say, in such a path is the finest service that mortal man can render to his younger brethren.

Very many things enter into the complex syndrome demanding such characteristics. The doctor who would serve his bishopric with all his heart, might, mind and strength is ever being brought into situations very difficult of solution. How frequently is he called on to be the mediator betwixt husband and wife; how often does it fall to his lot to be the advocate for and to plead the cause of wandering son or wayward daughter with discouraged and irate parents. Physician and priest in one, to his hand and heart is entrusted the task to forge again the broken link and knit once more the severed strand. Then it is that he will find himself standing in dire need of that marvelous art which the great Physician knew so well—the art of teaching by parables. Pope put it splendidly when he wrote: "Men must be taught as though one taught them not; and things unknown be told as things forgot."

Daniel Coit Gilman, first president of Johns Hopkins University, was an inspiring example of this type. Andrew Carnegie once remarked concerning him that "his special gift lay in drawing all men after him by pleasing all and offending none—doing the absolutely necessary ungentle things in a gentle way." To which Osler added, "I had never before been brought into close contact with a man who loved difficulties just for the pleasure of making them disappear." It is such gifts as these that enable one man to found things where another man only founders. How many students need to be taught the great value of amboceptor in the practical things of life—you remember the name signifying that mystical substance supposed to have its dwelling place in the blood serum and which serves to connect the invading cell with the complement at the same time rendering the invader harmless.

What a fine thing we do for our students when by precept and example we impart to them the grace of humility. Osler and Sir James Mackenzie dwelt much on this. The word humility is derived from the Latin word "humus"—that peculiar something in the soil which reduces its tenacity and enables it better to absorb water and the rays of light. For these days, when we are much accused of being "high-hat," proud, smug and exclusive, what a blessing a liberal amount of humus in our natures would be.

There is probably no one thing which does more to work mischief

and disintegration in the ranks of practitioners of medicine than the strife begotten of envy, jealousy, hatred, malice and evil surmising. This is an age old evil. It was the cause of the first murder when Cain shed the blood of his brother Abel. Its trail of woe is depicted in those sorrow tinged words which tore the heart of the Great Physician just before he mounted the cross on Calvary, when he observed that "there was strife among them (the disciples) who should be the greatest." The desire to excel is in itself good, but the lust to secure publicity, fame and honor at the expense of another is, indeed, a great curse and altogether contrary to the spirit of our beloved profession. The love of approbation is a dour sin. Beautiful is the word of an old French prelate:

He who would build a Church to God and not to fame,
Must never mark the marble with his name.

It is of infinite value in the formation of character for medical students to realize that ethical medicine is a great cause—a cause as verily as their country's cause in war. It was not by chance but by divine design that the medical art as brought to its birth by the fathers was endowed by them with the spirit of a calling—a profession. With them it was a cause and not a commerce. It was a cause for which many of them suffered; yea, not a few laid down their lives for it.

The battle is being fought along a different front today. But the warfare is still being waged. It is more subtle both from without and from within. And if in the present hour medicine shall cease to be a calling and perish as a profession and disintegrate into a commerce and a trade it will be because we who are entrusted with the training of the on-coming generation have been false to the trust committed to our keeping. It will be because we have not in our teaching commingled the water of science with the oil of faith. It will be because the science of Minerva Medica has been exalted in the student's life to the detriment of the art of Minerva Medica.

In Europe there are stately cathedrals—glorious edifices—which took as long as six centuries in building. What visions filled the hearts of those who first conceived them. What glowing aspirations thronged the souls of those who midway in their construction wrought here a graceful spire or there a buttress! But at every stage in the building all the past depended on the present. The generation then alive could leave to ruin and neglect, or bring to culmination the things the fathers had conceived. Any sensitive man at work on the structure during the six centuries of its building, may well have heard his father's pleading! Lo, how great a thing we planned! And how the responsibility of its furtherance falls on you; fail us not!

So let it be in this hard hour, when commercialism and materialism fill the earth that we shall be mightily endued with the divine ideals of our incomparable profession. Then once again it will be true of the students who pass beyond our portals that a man shall be—to the patients committed to his care—as a hiding place from the wind, and a covert from the tempest, as rivers of water in a dry place and the shadow of a great rock in a weary land.

Resolution passed by Association of American Medical Colleges at Forty-second Annual Meeting, Dec. 1, 1931, in regard to admission of graduates of Schools of Pharmacy:

WHEREAS, graduates in pharmacy are applying for matriculation in Schools of Medicine, and

WHEREAS, certain schools of pharmacy advertise their course as a superior preparation for the study of medicine, and

WHEREAS, admission committees in not a few schools of medicine grant no premedical credit to graduates in pharmacy, while some medical schools allow fifty or fifty-one hours premedical credit to graduates in pharmacy, therefore be it

RESOLVED, that we express our conviction that pharmacy does not constitute a preparation for the study of medicine; and be it further

RESOLVED, that pharmacy school graduates applying for matriculation in medicine, may not be granted premedical credit except with the approval of the Executive Council, to which body the credentials of the applicant shall be submitted for evaluation.

The Medical Teacher*

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The teaching of medicine is one of the sections of education for which there is no formal course in teacher training. The possession of a sound knowledge of his subject is not an adequate equipment for teaching. Pedagogy, be it medical or otherwise, is "a most intricate and difficult profession. It deals with human beings, no two just alike, and the same individual changing from day to day, with a world whose conditions are constantly varying, with changing demands, and changing ideals[1]."

It might be profitable if we, as medical teachers, turn our attention to the literature pertaining to nonmedical education as well as some emanating from medical sources.

Meakins[2] summarizes his conception of the ideal medical teacher thus: "The ideal teacher in medicine should be one with a sound critical experience in clinical medicine. He should know men and humanity. He should also be well grounded in pathology, physiology, pharmacology, biochemistry, and—if it is not asking too much—have a working knowledge of biometrics, biophysics and biology; but the greatest of these is his knowledge of clinical medicine. You may say that it is difficult to obtain such. All discussion of the teaching of medicine is futile unless such teachers can be produced. It is useless to attempt to cut and polish a diamond without the diamond and the tools."

Whitehead[3] protests against the teaching of dead knowledge, that is to say, inert ideas. These latter are ideas "thrown into the mind, without being utilized, or tested, or thrown into fresh combinations." "With good discipline, it is always possible to pump into the minds of a class a certain quantity of inert knowledge. You take a textbook and make them learn it." However, such knowledge must be put to use promptly or it tends to be forgotten. " . . . what is learned out of relation to use and need is soon forgotten and is gone root and branch[4]."

John Stuart Mill[5] emphasized that real education consists in training rather than in the accumulation of knowledge.

*From Boston University School of Medicine, and the Evans Memorial.

1. Smith, E. R.: Education Moves Ahead, The Atlantic Monthly Press, Boston, 1924, p. 33.
2. Meakins, J. C.: The Teaching of Medicine, J. Ass'n Am. Med. Colls., 3,2:108, April, 1928.
3. Whitehead, A. N.: The Aims of Education and Other Essays, The MacMillan Co., New York, 1929, p. 1.
4. Partridge, G. E.: Genetic Philosophy of Education. An Epitome of the Published Educational Writings of President G. Stanley Hall of Clark University, Sturgis and Walton Co., New York, 1912, p. 198.
5. Thwing, C. F.: Education According to Some Modern Masters, The Platt and Peck Co., New York, 1916, p. 144.

The teacher should strive to arouse the student's interest. "The purpose is not to make work easy, but to secure the driving force that accomplishes even the most difficult undertakings[6]." "No effort will be too hard if interest waves its wand over the undertaking[6]." "It has been proved over and over again that any subject can be well and interestingly taught not only without sacrifice of fundamental knowledge of it, but instead with greatly increased grasp of its foundation facts and principles[6]."

"The teacher has a double function. It is for him to elicit the enthusiasm by resonance from his own personality, and to create the environment of a larger knowledge and a firmer purpose[7]."

The teacher, according to the late President Eliot[8] can guide the student into an "enjoyment of thinking." The example set by the teacher is important; he should be one who thinks and inspires thinking. Eliot continues: "There are mechanical ways of cramming scientific facts and doing laboratory work; just as there are pigeon-hole methods of accumulating and sorting materials and 'sources' in philological and historical work. . . . In teaching young people to think hard, any subject will answer. The problem is to get them to weigh evidence, draw accurate inferences, make fair comparisons, invent solutions, and form judgments; and this is the serious problem in all education for efficiency."

The teacher should inspire ideals. "One of the most prevalent and serious evils of the college work of the present time, one containing many others, is too close specialism in teaching. Professors are too much concerned with the subject-matter of their courses, and too little with the true function of teaching. They are led away from interest in the student by the passion for systematizing, technique, precision, and scholarship within their own departments; and they try to impart to the students the same professional attitude toward their subject that they themselves have. This is wrong, for it is a time when the schoolmaster and his methods and subject-matter are of minor importance. The work of the professor should be to go far afield and bring in the best of everything within his department, freshly studied, and enthusiastically presented. He should be full of the latest news of his science as well as its whole history, the lives of its heroes and great men, and its dramatic achievements. He must, if need be, brave the charge of superficiality and lack of system, if in order to be inspiring he must sacrifice something of precision and form. His aim must be the mental awakening of his students. He should stimulate questions and prob-

6. Footnote 1, pp. 52, 57, and 137.
7. Footnote 3, p. 62.
8. Eliot, C. W.: Education for Efficiency, Houghton Mifflin Co., 1909, pp. 15, 18.

lems, and answer but few of them. The test of his success is not the amount of knowledge he leaves in the minds of his students, but the state of their interests in things worth being interested in; that is, his effect upon their sense of values in life, and their zeal in adjusting themselves to them[9]."

"The whole art in the organization of a university is the provision of a faculty whose learning is lighted up with imagination[10]."

"The theoretical part should be clear-cut, rigid, short, and important. Every proposition not absolutely necessary to exhibit the main connection of ideas should be cut out, but the great fundamental ideas should be there[10]."

"It should be the chief aim of a university professor to exhibit himself in his own true character—that is, as an ignorant man thinking, actively using his small share of knowledge. In a sense, knowledge shrinks as wisdom grows; for details are swallowed up in principles. The details of knowledge which are important will be picked up *ad hoc* in each avocation of life, but the habit of active utilization of well-understood principles is the final possession of wisdom. . . . But the growth of knowledge becomes progressively unconscious, as being an incident derived from some active adventure of thought[10]."

Eliot states: " . . . the most important quality in a teacher, whether for children or for adults, is genuine and transparent truthfulness. There should be a passion for truth, or for the fact, as distinguished from the guess, or the imagination[11]."

Another quotation from Whitehead's stimulating book. "A certain amount of ruthless definiteness is essential in education. I am sure that one secret of a successful teacher is that he has formulated quite clearly in his mind what the pupil has got to know in precise fashion. He will then cease from half-hearted attempts to worry his pupils with memorizing a lot of irrelevant stuff of inferior importance. . . . Get your knowledge quickly, and then use it. If you can use it, you will retain it.[12]"

The possession of a sense of humor is considered to be valuable to the teacher. Musser[13] writes: "He should have a sense of humor. He should be able to see the ridiculous in dogmatic teaching. There is so little in medicine that is proven that to make a dogmatic statement is ridiculous, and a sense of humor in a man will keep him from making such statements."

9. Footnote 4, p. 326.
10. Footnote 3, pp. 145, 16, 58.
11. Footnote 8, p. 26.
12. Footnote 3, p. 57.
13. Musser, J. H.: The Full-Time Medical Teacher, Southern M. J., Dec., 1929, p. 1058; abstr. in J. Assn. Am. Med. Colls., 5,3:177, May, 1930.

The illustrious thinker, Emerson[14], expresses himself thusly: "I advise teachers to cherish mother-wit. I assume that you will keep the grammar, reading, writing and arithmetic in order; 'tis easy and, of course, you will. But smuggle in a little contraband wit, fancy, imagination, thought. If you have a taste which you have suppressed because it is not shared by those about you, tell them that."

Matthew Arnold[15] gives some important advice. "Wolf's great rule in all these lessons was that rule which all great masters in the art of teaching have followed—to take as little part as possible in the lesson himself; merely to start it, guide it, and sum it up, and to let the main part be borne by the learners."

Smith notes[16]: "It has been no uncommon sight to see a teacher so busy asking questions of the pupils and marking each answer in her class-book, that she has no time either to teach or to be of other service to the children. . . . A good teacher is too busy to calculate and put down a mark for everything a child says. She is too busy inspiring the children to an interest in the subject under discussion or making a contribution from her greater experience and broader knowledge. . . . pupils who are continually marked soon become self-conscious and calculating."

For an efficient faculty, according to Whitehead, the functions of education and of research must be associated. "Do you want your teachers to be imaginative? Then encourage them to research. Do you want your researchers to be imaginative? Then bring them into intellectual sympathy with the young at the most eager, imaginative period of life, when intellects are just entering upon their mature discipline. Make your researchers explain themselves to active minds, plastic and with the world before them; make your young students crown their period of intellectual acquisition by some contact with minds gifted with experience of intellectual adventure. Education is discipline for the adventure of life; research is intellectual adventure; and universities should be homes of adventure shared in common by young and old. For successful education there must always be a certain freshness in the knowledge dealt with. It must either be new in itself or it must be invested with some novelty of application to the new world of new times[17]."

"In every faculty you will find that some of the more brilliant teachers are not among those who publish. . . . But, when all such allowances have been made one good test for the general efficiency of a

14. Footnote 5, p. 14.
15. Footnote 5, p. 211.
16. Footnote 1, p. 90.
17. Footnote 3, pp. 146 and 148.

faculty is that as a whole it shall be producing in published form its quota of contributions of thought[17]."

Zinsser refers to Pusey's[18] article in which the latter affirms: "research and education are not the same things," and had better be separated. I will quote part of Zinsser's spirited reply to this statement. "But we assert that the separation of investigative activities from departments engaged in the exposition of any subject in medicine would irreparably damage their purely educational effectiveness. Men who devote themselves exclusively to the teaching of subjects as actively advancing as are the various departments of medical knowledge, with little or no interest in investigation, show themselves by this testimony inadequately endowed with intelligent curiosity and imagination. They are manifestly pedants whose faculties are left unstirred by the most fascinating invitation to intellectual adventure that modern thought has to offer[19]."

"The characteristic of high intelligence is the ability to make new associations, the ability to see new ideas and new arrangements or relations of ideas. The characteristic demand of research is first for new observation; but more, for new associations of new or old observations and for new methods. The research man is he who knows what to look for. The research man is he who sees what he isn't looking for. The research man is the one like Claude Bernard or Jacques Loeb who capitalizes his failures. These qualities go with the keenest intelligence[20]."

One can readily agree with Halle[21] who asserts "the influence of one fine teacher often means more to a student than anything else at college."

Comment

It should be evident from the foregoing selections from the literature on education, only three of which (Musser, Zinsser and Lyon) are from medical sources, that there is an art or technic of teaching. Sufficient quotations have been given, it is assumed, to support the statement that the method of imparting knowledge is deemed essential by nonmedical teachers. Should it not likewise be given serious attention by medical teachers?

It is realized that many medical teachers are much aided by imitation of the methods of their former instructors, which they remember

18. Pusey, W. A.: Medical Education and Medical Service, J.A.M.A., 86:1501, May 15, 1926.
19. Zinsser, H.: Problems of the Bacteriologist in his Relations to Medicine and the Public Health, J. Bacteriol., 13:147, March, 1927.
20. Lyon, E. P.: Honor Societies, *Science*, 71:335, March 28, 1930.
21. Halle, R. S.: Which College, The Macmillan Co., New York, 1930, p. 13.

to have been particularly effective. The part of these methods for which they have the ability to utilize is adopted, developed and changed according to need. Such a practical method for acquiring information pertaining to the teaching of medical students is undoubtedly valuable, but I contend that there is yet a real need for greater awareness of the value of and for more extensive information pertaining to the technic of imparting knowledge to younger minds.

Meakins' stimulating summary of the ideal medical teacher is recalled. His qualifications well express the broad foundation of the knowledge that should be possessed by a medical teacher, but now that I have become somewhat saturated with the thought of nonmedical educators I wonder if these qualifications are not based too largely upon the possession of a superior knowledge of medical and allied sciences, and lack recognition of the importance of the art or technic of pedagogy. With no disrespect to Dr. Meakins, whose valuable paper is recommended to the reader for reading in toto, I am led to paraphrase a well-known biblical verse[22]: "And though I have the gift of prophecy and understand all mysteries and all knowledge; and though I have all faith so that I could remove mountains and have not charity, I am nothing," to "Though I have a sound critical experience in clinical medicine, know man and humanity, am well grounded in pathology, physiology, pharmacology, biochemistry, and have a working knowledge of biometrics, biophysics and biology, and have not a knowledge of the art of teaching, I am nothing."

Much can be said about the requirements for ideal teaching of medicine. No two teachers should be exactly alike, and the conditions are constantly changing as the science advances. But, subject to such limitations, I offer my own summary.

The medical teacher should possess a superior knowledge of the section of medicine which he is to teach, and an adequate knowledge of the related parts of medical and nonmedical science. In addition, he should understand the art or technic of imparting knowledge to others. He should realize that his purpose is to aid students in fixing certain principles and important details in their minds, and to do so, he must use methods which experience has shown to be effective. He should train the students in methods and inculcate such mental habits that they will become physicians with initiative and independence. He should so interest and stimulate his students that they will desire more information and be given the impetus to acquire it by their own efforts. He should be conscious that his purpose is to introduce the subject, and guide the

22. I Corinthians, XIII, 2.

student to a clear understanding of it. He should teach the students to read with a purpose and aim to establish this as a habit that will continue after graduation from medical school. In fact, the good medical teacher should think often of what effect his teaching will have on his students after they are engaged in the practice of medicine.

It is a good plan for the teacher to keep in touch with his students' state of mind regarding the subject under consideration. This may be done by asking suitable questions, not with the purpose of marking the answer, but to detect the matters that are not clearly understood or too easily forgotten, and of clarifying and emphasizing them, according to need. In addition, this gives the student an opportunity to express himself, and is in agreement with the conception that self-education is the soundest education.

Summary and Conclusions

There is no formal teacher training course in medicine.

Selections from the literature on education are given to show the importance of a knowledge of the art or technic of imparting knowledge to others.

It is believed that familiarity with the science of pedagogy is just as important to medical teachers as it appears to be considered, judging by their writings, by those engaged in nonmedical education.

The present need of medical faculties is not for more "authorities" on medicine but for more "teachers." We should be concerned not only with what we teach but how we teach it.

Equipment, Opportunity, and Responsibility in Modern Medicine*

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At the present time your medical education represents the requirements of the highest group of American medical colleges. It is not the finished edifice, but the foundation for future building. This is "Commencement" time, commonly known in this country, but in a much deeper sense it is your "commencement" of a professional life and the structure which you build, whether of small or large dimensions, of fragile or sturdy materials, imbalanced or harmoniously stable, simple or artistic in design, is largely or wholly within your own power to determine. You are your own architect!

As in any building project, materials, workmen and capital are to be considered. Therefore, in assaying yourselves at this stage of your career, you consider, first, what you are as a person, physically and mentally. Biologically you are very complex, having two parents, four grandparents, eight great-grandparents, sixteen great-great-grandparents, and in your tenth generation back you had more than one thousand direct forebears. Your environment, especially the social and economic, has developed this hereditary capital, and has carried you to a point beyond which the State could no longer provide educational facilities. Here you invested money in your medical education, perhaps from $6,000 to $10,000, and, if adding what you might have earned during this time at unprofessional rates, an equal amount would bring the investment to about $15,000.00. It might be well to pause for consideration of how much greater this monetary investment would be were it not for the fact that a large proportion of your teachers received no direct compensation. Tuition these days pays a small percentage of the cost of buildings, materials and teaching.

Your equipment, then, is essentially a medically trained mind in a physical body, with a certain personality of expression. These three factors vary much in quality and character, making of you an individual, separate and distinct from all others, at least in some degree. All things being equal, a large stature commands respect and smaller ones make up for that in various ways—by speed of action, vocal or written acclaim, or, perhaps, by brilliant attire. The same rule holds true throughout the animal kingdom.

*Address before the Graduating Class of 1931.

Aims of the Physician

You have prepared yourself in the field of medicine rather than one of the other professions, or become an artist or a scientist, or prepared yourself for a business career, or become a craftsman. It might be difficult for most of you, or any generation of physicians before you, to explain satisfactorily why you studied medicine. Of much greater importance is what is our ideal of service to mankind. The business man aims to make money, the craftsman to make a living, but the professional man serves the physical, mental, moral or spiritual needs of man. You belong now to a learned profession, an ancient learned profession, and thereby accept a code of ethics as a rule and guide of conduct. You will not be required to work any certain number of hours daily, your compensation will vary greatly, and your charity will be great in comparison with that of other men and women. Your best physical and mental efforts will be directed toward the relief of suffering and its future prevention among mankind. Knowledge, rather than materials used or craftsmanship, will be your basis for compensation. You are entitled to a good living wage, compensation that will enable you to live respectably in good communities, to maintain an efficient office, to provide for needed recreation and medical travel, and to care for dependents or for yourself in later years. (Certainly much of the pathos of the old physician's life could be turned to happiness by proper financial planning).

Internship

Your next step will be to practice medicine in some degree or under certain circumstances. For most of you this will be an internship in some hospital. There you will have great opportunities with, at first, small responsibilities which will grow as you qualify to accept more. With few exceptions, this record is wholly a matter of your own making. May I remind you that whatever else an internship may mean to you, it is your opportunity to know and study successful members of the staff, and in turn be known and studied by them, to the end that in quite a large number of incidences you will be selected for or directed to a much more suitable location for private practice than you could possibly select otherwise. It frequently means the association with desirable older physicians and your professional opportunities and earnings start off on a higher level. Every year places are made for young men and women in medicine by vacancies in the ranks through dropping out of line because of illness, old age or retirements. Internships are stepping-stones to private practice. By the same token, poor material as

interns is culled out and denied these benefits. Look ye, therefore, to your laurels as interns!

Licensure to Practice

Following, or, perhaps, preceding your internship, you will qualify before state or national boards of medical registration so that private practice may be undertaken legally. It will be a point of wisdom if more than one state license is secured in order to provide more readily for future practice, if desirable for any reason, in other parts of the country. Frequently, the changing of medical laws in different states precludes future migration without reexamination at a time when the test would perhaps be more difficult or embarrassing.

Where to Locate

Recent studies on the income from medical practice made by Leland[1], show that earnings increase more rapidly when postgraduate preparation is carried to four or more years rather than the shorter internship or house service of one and two years. However, circumstances will modify this greatly. An unusually capable young physician, with an excellent personality, would succeed more rapidly. Likewise, working as an assistant to an older man would hasten the process and obviate the need of longer interning or fellowships. The determining factor is good training and it may be stated that any well trained young physician can locate anywhere and make a professional and financial success. These days, regardless of one's domicile in early life, after the required time in premedical and medical college and subsequent interning, etc., and the value of aid from various separate branches of medicine and laboratories as practiced in large hospitals (especially in the larger cities), you may be led to seek locations in larger centers, feeling that small communities would mean isolation and insufficient hospital facilities. It should not be lost sight of, however, that these smaller centers usually offer opportunities for more ready advances, a less exacting career, and a very satisfactory social life. Personal desires and perspectives will help solve the problem of larger cities versus smaller communities as suitable fields for private practice. A good rule to follow is to locate where you wish to live for there you are more likely to be happy and find conditions which will for you develop a satisfactory professional career and provide adequate financial compensation.

Some of you will locate in the region of your internships where a continuance of those acquaintances will maintain. Some of you, perhaps, will start practice in your home town where for a time you may be an unknown prophet or may need to live down certain prejudices in the

1. *J. A. M. A.*, May 16, 1931.

minds of some prospective patients. Others will go to new communities, a stranger to the people and they unknown by you.

Professional Courtesies

After selecting your location for practice and completing the legal requirements incident to your beginning private practice, call on the profession—all of them, if a small community—learn to know them and in turn be known by them in a straightforward and dignified manner. It is much better, when an inquiring patient asks, "Do you know young Dr. Jones who has just come to town?" to have a physician say that he has met you, favorably, rather than reply, coldly negative, "No, I have never seen him, neither have I ever heard of him." Offer any type of aid which you might be able to give these men and make yourself so useful that they may willingly turn to you for various kinds of service which recent graduates, up-to-date in medical knowledge and training and with plenty of time on their hands, can give. Here will be your chance, if right contacts are made and your attitude is that of helpfulness modestly given and a fine ethical sense regulates your efforts. Perhaps, it will be night calls at first or emergency visits to try you out, and, later, covering for another physician while he is away from his practice. "Crumbs," you say, but perhaps surprisingly quickly a full slice or, doubtless, a whole loaf will be yours. Satisfied patients, like a merchant's satisfied customers, will be your best advertisement and their families and friends will soon make the small snowball large as it turns over each year.

Social and Civic Contacts

Acquaint yourself with the local and state health board regulations and personnel and likewise study the local hospital situation, making contacts which will serve your entrance on its staff in the most advantageous way, and determine how you can best fit into their professional picture. Without intrusion, make yourself favorably known in the social and civic life of the community. You will then be well started in your chosen location. Perhaps you will practice more economy than medicine during your first year, but so have all of us who have preceded you. It requires only part of a season to produce a squash but years to grow a good oak.

Use your spare moments to read current medical literature and new books, or, perhaps, to review some of the work you covered in medical school days. Study diligently your difficult cases. Seek the counsel of your seniors when confronted with grave or difficult problems—you will be a safer and more successful physician and have greater support from your clientele by doing so. Only the other day a fine family

mother said to me, "What I like about Dr. S. is that when we have any condition about which he is in doubt or which is apparently beyond him, he immediately calls in a good specialist or consultant." These people always call this family physician first and follow his advice, and he holds the family for all its medical care. This is the proper position to take.

There are, however, two other classes of physicians with regard to consultation: (1) the timid soul who has so little courage or confidence that he immediately calls in help and sooner or later loses patients because they detect lack of skill or confidence in him; (2) the overconfident man who either desires to impress the patient or, for commercial reasons, continues far beyond his ability without help.

Medical Societies

Attend hospital staff meetings, local, state and national medical conventions. Be a good listener but do not make the mistake of being seen and never heard for medical science would never have grown to its present magnificent status had members of the profession largely taken that attitude. Frequent conferences, presentation of papers before societies, and contributions to the literature of warrantable material is as necessary for the growth of any individual as it is for any organization or the profession at large. Get the habit of keeping good records and engaging in society activities when you are young and have plenty of time for, if this is delayed, you, doubtless, will never do it. Remember, that the man who claims he is too busy to leave his practice for a day or a week to attend a society program, and when he does go away, if at all, it is only for fishing or hunting, etc., will some day find his neighbor physician, who regularly goes away for medical refreshment and improvement, getting his patients. People know the value of these efforts to keep abreast of the progressing times. They want up-to-date medical care, and loyalty or friendship cannot compete with this demand.

Malpractice

Sooner or later, you will doubtless experience the unhappiness of malpractice in some form or relation. You will sleep better if you carry protection through insurance. Not all people whom you serve conscientiously will be loyal or generous to you at times. May your professional career never be marred by a charge of criminal malpractice through which your friends and this institution which has given you your education would likewise suffer. It is a matter of statistics that most of the malpractice suits brought against physicians result from unguarded or unwarranted criticism of another's care, especially in accident or fracture work. Legal advisers urge that X-ray evidence,

when such cases are discharged, is the safest procedure to follow and will always help you in court. Be charitable toward your brother physician, be patient, and, above all, do not quarrel with your patient. Permit no neglect, and, if you have exercised ordinary skill, you will have little need to worry about damage suits. Not long ago a physician, now an emeritus of this college, in talking about a certain well known surgeon who is ungenerous and critical in his relations at times, said that he most desired to be regarded kindly by his medical contemporaries next to being a successful physician. Now, this should be your aim. Few of us ever can afford to be independent or unfriendly if we wish to be successful in medicine.

Finances and Bookkeeping

There will need to be considerable organization in your professional activities. You must have some business sense, not only to care for financial matters as related to charges and collections, but also to the proper use of money after it becomes yours. Some physicians are so poorly organized that scarcely any day's work may be counted an efficient procedure. They chase themselves around in circles, so to speak, work hard and get little done either for their patients or themselves. They may be the type who are always late at everything, and the financial returns are proportionately poor. Some men keep such poor financial accounts and send out bills so irregularly or are otherwise so unbusinesslike that much money well earned never comes back to them, and their families suffer accordingly. Such men are likely to be working at 70 to keep the wolf away from their door. On the other hand, commercialism is reprehensible. The doctor who sees money rather than the illness in people who seek his help is far from the ideal. I know a physician who, as an intern, conceived the idea of studying successful men in order to make himself a successful physician. His procedure was to hide in an office within hearing distance of the consultation conversation between the patient and the successful doctor. What he wanted to know was how it was "put across" or, in other words, be trained in sales-talk. He has made money, but he could have been a much higher type of physician. You need organization and business methods in your professional work but not to the point of making a business of your profession. A nurse or a secretary in your office will help you make your own efforts go farther, will take better care of your patients, will relieve your family of much needless concern, will administer business matters much more efficiently, and will more than pay for herself in actual financial returns.

The following is taken from the current number of *Hygeia:* "Phy-

sicians formerly committed many errors in dealing with patients having functional disorders. The patient would go to a doctor who, after an examination, would tell him that there was nothing wrong with him, that his complaints were imaginary, and that he should go home and forget it. However, the patient knows there is something the matter with him, that he is not putting it on; therefore he is not satisfied, but drifts from doctor to doctor, and finally lands in the clutches of some cult or quack. The cultist or quack caters to his subconscious emotional conflict and if the patient has faith in the procedures he will be 'cured.' Faith seems to be the key that will unlock the door of the subconscious and release any emotional complex stored there. I want to emphasize again that so far as the patient knows, he is sick. He cannot distinguish between a functional symptom and one that is due to organic disease. This can be done only by a competent physician."

There certainly is a lot of truth in this statement, and because of belittling complaints, and failing to understand many social and mental problems, we fail, at times, to do for the patient what really is our job. Often, all that one needs to know is that there is not a flat tire and that he can drive on with comfort and confidence. There are perhaps no real needs of any patient beneath the dignity of the physician to care for.

Whether you become a teacher of medicine, go into industrial medicine, serve in the National Defense Corps, become a member of national, state, or local health boards, enter into research or into any medical endeavor other than private practice, the before mentioned principles apply more or less directly.

Reflections

After a few years, when you are well started and are making a good living, you, doubtless, will become analytical concerning yourself and your work and these comparisons may lead you to various points of view. Up to such a time you may have only one objective, namely: getting started in the practice of medicine in some one of its various forms of activity or branches. Perhaps, the commonest way of creating a false sense of success or failure is to compare ourselves with the wrong person. The difference between the competence of a successful teacher and a speculator's income, or the $2,000,000 which two prize fighters divided between themselves for twenty minutes of pummelling as compared with Rembrandt's "Night Watch" which cost him three weeks of hard work and netted him $3,000, leads nowhere in arriving at real values. Gilkey[2] says, "If you want to estimate accurately your own achievement, you must compare yourself with people of your own age,

2. Solving Life's Everyday Problems.

your own advantages, your own type of work, your own native gifts, and your own actual opportunities. Then and only then can you determine whether—everything considered—you are a success or a failure. When a man stands in front of a pebble he seems enormous. When he stands in front of a mountain he seems insignificant. If he wants to gauge his true size he must stand beside a representative of his own species." Measure yourselves with your contemporaries, with men and women holding similar positions in other comparable hospitals and medical faculties.

If you find much of your work is routine and your career rather ordinary, be cheered by a statement made by President Eliot of Harvard who said: "My work offers me, I imagine, more variety than the work of most professional men offers them. Yet, at least nine-tenths of my work has now come to be mere routine. It brings me no more novelty or fresh interests than the work of a carpenter or a blacksmith brings him."

If you will be a successful physician you must learn to forget—to forget past failures, unkind remarks, and what you might have done differently (the giving of a different drug, using a different surgical procedure, or having other laboratory tests.) It is vicious to punish oneself by these memories. They must be forgotten, must be lived down.

Often there are personalities to be reshaped if success and the highest professional ideals are to be obtained. I think of a man well established in practice and accounted successful. Long past the time when the enthusiasm of youth leads one to recount dramatically many experiences as unusual which further experience and judgment would discard as commonplace, he enjoys the recitations of these personal accomplishments and quite frequently accompanies them with accounts of poor results or oversights of his brother physicians, even his peers. I like to think in contrast of the surgeon who recently operated on the King of Siam. His Majesty traveled almost round the world to seek this American surgeon so that he might have vision restored by the removal of a cataract. This man is not only skilled but is modest and of simple demeanor. Yes, he had good training and profited by it in all his professional relations and efforts. Perhaps he typifies the silent and noble hills of the state which gave him birth. Is it not true that modesty of one's own accomplishments and charity to other's opinions and acts is a much better rule to follow? Charles Macfie Campbell[3] tells us, "While it is doubtless impossible for any person to transcend the limits of his own endowment, it is possible for him to eliminate from his personal equa-

3. Delusion and Belief.

tion such distorting factors as constitutional weaknesses, disturbing memories, underlying biases, moral laziness, and cowardice. A systematic review of one's own personality with the aim of modifying it is not a mere intellectual diversion. It is a dynamic process which makes the resources of the individual more fully available for the tasks of life."

Not taking criticism the right way and not getting along with other people are often serious handicaps, especially to the physician in the making. Gilkey gives much good advice in these matters. He says, "To begin with, we should remember that a great deal of criticism is worthless and should be entirely ignored. The criticism that grows out of ignorance belongs to this class. . . . Equally worthless are the criticisms that spring from unworthy motives. Did you ever realize how many of the mean remarks we hear day after day originate in sheer jealousy? . . . What is the criticism we ought to take seriously? It is the criticism which comes from those who understand us and our work, who know what problems we face and what progress we are making, and whose aim in offering criticism is to help us work more effectively. . . . When we thus receive the right type of criticism we must school ourselves to listen to it with a quiet and a receptive mind. Whether it cuts deep makes no difference."

Briefly, I have desired to consider something of your equipment, your opportunities, and your responsibilities in medicine. You are now experiencing one of the high points of your young careers. Your graduation has much of drama in its setting. You have reached this point in your professional preparation at the expense of much sacrifice on your part, more so, doubtless, on the part of your parents who are enjoying this occasion with you in this auditorium tonight, or are thinking of you from remote homes, or, perhaps, in some instances, are looking back from the Bar which they crossed ere since. You are proud of this accomplishment, you are resolving to be worthy of the trust imposed, and vow to carry the torch now placed in your hands courageously and unsullied.

I count it a pleasure to have had something to do with your preparation and I speak for the faculty of this college when I say that your careers will be followed with keen interest and our best wishes for success. Strive, not necessarily to be better than others, but to be better than yourselves. You are welcomed into an ancient and honored profession. Live your lives so you shall leave this profession better than you found it.

Some Methods Used in the Teaching of Clinical Clerks and Physical Diagnosis*

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Having passed for many years from the teaching of internal medicine into that of another subject, it seems worth while to present a few methods of instruction which yielded successful results and which have not, since then been used by other instructors.

I. INSTRUCTION OF CLINICAL CLERKS.

During the year 1904 to 1905, while I was a member of the medical staff of Cooper Medical College (now Stanford University), under the directorship of my father, the late Professor Joseph O. Hirschfelder, I instituted the following method for the case instruction of the clinical clerks:

The clerks took the official histories of the patients assigned to them in the wards of the City and County Hospital (now the San Francisco General Hospital). They also kept a separate duplicate history for themselves, as part of the record of their ward work. Upon this they also made and recorded their own physical examination of the patient, which was then verified or criticized by the teaching staff member under whom they served, and whose verification or comments were indicated by him on their history and signed with his initials. They also made and recorded the necessary laboratory examinations (blood, urine, stools, etc.) in the clinical laboratory during the specified hours when its director (Professor George Blumer) was present. These findings had to be verified by him, and countersigned on the history with his initials. They then wrote out on their histories a complete discussion of their own differential diagnosis, their own discussion of the proper therapeutic management of the case, and the complications and sequelae which might occur along with a discussion of the diagnosis and therapeutic management of each of these conditions. They kept day to day notes of the condition examinations and of the patient while under their observation. When the patient was discharged or when their period of clerkship ended, these case notes accompanied by a bibliography of the sources which they had consulted in obtaining their information was submitted to their staff instructor as the record of their work.

This procedure compelled the student actually to write a sort of textbook chapter of the disease from which the patient suffered, based

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on his own observations, reasoning and reading. It compelled him to obtain a much broader view of the disease than the patient alone afforded, and because of his contact with the patient it aroused his interest. From a didactic standpoint it required relatively little time on the part of the instructor, so that in a fifty bed service, with seventeen clinical clerks on half day clerkships and four staff instructors and one laboratory director, all of whom spent about two hours daily in the wards, no serious difficulties were encountered.

The beneficial results were also shown concretely by the fact that the groups of clerks who worked under this system captured a great deal higher percentage of the most desirable internships on the Pacific Coast than had been usual in previous years, and also more than did those from another section of the same class with whom it had not been used. This occurred in spite of the fact that this latter group contained a greater number of students whose general class standing was exceptionally high.

Though this method was used in the training of clinical clerks in the wards, it is equally feasible to apply to clerks in the dispensary; and a similar procedure could also be applied in the teaching of other clinical subjects—surgery, pediatrics, obstetrics, orthopedics, otolaryngology, etc. It fulfills, I think, the requisite of supplying and insuring interest, thoroughness of observation and breadth of view to the student on the basis of his own clinical experience, with a minimum expenditure of instructors' time.

II. The Use of Graphic Records of Heart Sounds in the Teaching of Physical Diagnosis.

While in the medical service of the Johns Hopkins Medical School, under the directorship of Professor Lewellys F. Barker, I conducted, in 1912-1913, an elective course in physical diagnosis in which the students compared the results of their own auscultation with grapic tracings of the heart sounds made from the same case, on the same afternoon. In this work I was ably assisted by Dr. George S. Bond. Students and instructors listened to the patient's hearts. Each individual then made on the blackboard a diagrammatic representation of what he had heard, recording the time duration, intensity and relation to first and second heart sounds. The diagnostic and physiologic significance of these findings were discussed.

While this was going on, the patient was taken to the laboratory and a record of his heart sounds was made. We used the current from a microphone to an Einthoven (Edelmann) string galvanometer. To exclude extraneous sounds the microphone was inclosed in a thick walled

lead chamber (walls 1 cm. thick) as recommended by Zwaardemaker. This chamber was rendered free from mechanical vibrations by suspending it from the ceiling with four ordinary doorsprings. The heart sounds were transmitted to the microphone by placing a weighted flat stethoscope bell (without any diaphragm) over the area of the precardium and led from this bell to the interior of the lead chamber through a long thick-walled rubber tube. The weight of the stethoscope bell was sufficient to keep it in place without rubbing along the patient's skin. Very satisfactory tracings were obtained by this method, showing normal sounds, murmurs, gallop rhythms, and even the auricular sounds in cases of heart block.

The tracing from the patient under discussion was then brought out and compared with the diagrams on the board as made by both students and instructors. At the beginning of the course very many errors were made, but by the time eight or ten laboratory periods had been spent in this work a surprising progress in accuracy was manifest on the part of both students and instructors; although the results showed that none of us were infallible.

This graphic method has the manifest advantage of showing objectively to the student, as no other method can, exactly what he hears, and of enabling him to correct his errors by repetition of the auscultations. The apparatus now available, through the great simplification by amplifying tubes, is infinitely better and easier to operate than that which we had in 1913. The records show the exact relation to systole and diastole and the exact duration of abnormal sounds. Once installed the method is easy to operate. Its only defect, if it is a defect, is that it shows objectively to the student, the occasional fallibility of the instructor; and it must be admitted that some very well known clinicians studiously shunned that laboratory.

The same apparatus can, of course, be used for pulmonary sounds, demonstration of percussion notes, abdominal sounds, etc.

I found that the interpretation of abnormal heart sounds was greatly facilitated by a very simple artifice, namely, by making the habit of arbitrarily dividing in one's mind both the systolic and the diastolic period into thirds. In the first third of the systolic period comes the first heart sound, either clear or blurred. In the second third come the short systolic puffs of the cardiopulmonary, the accidental murmurs, and, over the aortic area, the crescendo-decrescendo murmurs of aortic stenosis and atheromatous aortitis. The last third of the systolic period, a shortened short pause lasting up to the second sound, was in our experience always clear unless there was a true mitral regurgitation pres-

ent, in which case the murmur was audible as a long blow audible all through systole and lasting right up to the incidence of the second sound.[1]

The diastolic sounds are, of course, the early diastolic blow of aortic regurgitation, loudest in or confined to the first third of diastole and the protodiastolic gallop rhythm or so-called third heart sound at the end of the first third of diastole. In the middle third of diastole occur the middiastolic rumbles of auricular flutter or fibrillation. In the last third of diastole occur the presystolic rumble of mitral stenosis, or occasionally a pure presystolic gallop rhythm caused by an auricular systole with a normal mitral valve. While such a division of time between the first and second heart sounds is of course entirely devoid of any mathematical accuracy it is extremely convenient in teaching physical diagnosis, because it focuses the student's mind successively upon each of the phases of the cardiac cycle in which the particular abnormal sounds are likely to occur. And though at first blush it may seem very difficult to make such an even arbitrary division of time between sounds, anyone who has ever heard staccato notes played on a piano will realize that if sounds recur with any degree of regularity, very brief sounds and also their sequence and spacing can be detected by the ear without great difficulty. As a matter of fact our students adopted this method without much difficulty and found it very helpful in aiding their interpretation.

I found also that very faint sounds, like those produced by the auricular contraction in heart block and the presystolic rumble of mitral stenosis, were most easily detected when the stethoscope was first touched to the skin, without exerting pressure; while the rough and high pitched murmurs of mitral regurgitation and usually the pericardial frictions were usually exaggerated when the stethoscope was pressed firmly against the skin. The whole gamut of sounds in any precordial area, were thus best obtained by following the routine of at first just touching the stethoscope to the skin over any given area, and then gradually increasing the pressure exerted.

1. It is possible that in an occasional case of true mitral regurgitation the murmur may not completely obliterate the short pause, but I believe that such cases are rare.

Report of the Committee on Educational Policies of the Association of American Medical Colleges

During the past year the Committee on Educational Policies has continued its study of graduate medical education. Through the cooperation of the National Board of Medical Examiners the Committee has had opportunity to confer with representatives from most of the national group of specialists. In addition to such conferences, we have had considerable correspondence with groups and individuals interested in graduate study.

The Committee recommends the following basic fundamental requirements for preparation for the practice of the specialties:

1. Graduation from a recognized medical college.

2. One year internship which should involve general clinical work. This should preferably be a rotating internship or one in which general diagnosis and general treatment are stressed.

3. Residency, which might be in a broad special department, such as medicine, surgery, gynecology and obstetrics. This residency might consist of an assistantship in preclinical departments, such as pathology, physiology, etc. In lieu of the residency, the requirement might be three years' experience under supervision or five years general practice.

4. Not less than two years graduate clinical work under supervision of a university. The candidate in addition should be required to take sufficient training to attain a superior knowledge in the fundamentals which underlie diagnosis and treatment in his clinical field. The departments with which he has worked shall certify that in their opinion the candidate is competent to begin the practice of his specialty in a scientific manner without supervision. The candidate may then present himself for an adequate examination by the university.

The candidate should receive adequate recognition of his attainments from the university.

It is recommended that a copy of these recommendations be sent to the various medical colleges with the suggestion that they survey their resources and facilities in order to provide increased opportunities for graduate training as above outlined.

(Signed) L. B. WILSON
E. S. RYERSON
JOHN WYCKOFF
F. T. VAN BEUREN, JR.
H. G. WEISKOTTEN, Chairman

Report of the Committee on Nurses' Training Schools of the Association of American Medical Colleges

Your Committee, appointed several years ago, to consider "the relation of the medical college to the school of nursing" has taken advantage of several studies that have been made pertaining to schools of nursing, particularly those portions concerning the so-called University Schools of Nursing.

These studies clearly indicate that there is no uniformity in plan of organization or administration among these schools and, as one study states, "If it is true that, ideally, the university schools of nursing must be by definition an integral part of the university system, then there are few of these schools which do not fall far short of the ideal."

Schools of Nursing as now conducted by universities are superior to those conducted by many hospitals in that they have better administration and control of instruction, a higher quality of faculty and better facilities for class and laboratory work. There are some schools, however, of which this cannot be said.

It is reported that there are more than 2,000 schools of nursing in the United States, having an enrollment of approximately 85,000 students, of whom 65 per cent are high school graduates, 27 per cent have not completed high school courses, 7 per cent have had from 1 to 3 years of college work and only 1 per cent have had four years of college education.

There is general agreement that, while there has been an overproduction of nurses during recent years, the supply of women who by reason of their preparation are qualified to occupy positions of responsibility in the nursing field is quite limited.

It would appear, therefore, that those universities conducting schools of medicine with their associated hospital facilities are in a strategic position to make valuable contributions to the field of nursing.

The basic training of the usual nurse may be regarded as primarily technical in nature. While there has been criticism of universities for including such training among their activities, certain types of technical training can best be given under such auspices because of the facilities which exist and which must be provided for professional education. These facilities offer the best invironment for technical training as well. Particularly is this true in the case of the nurse. It is appropriate, therefore, that universities which have these facilities conduct such nurse training.

In addition to this type of technical training, however, it is suggested that universities which are conducting schools of medicine organize courses for nurses which are entirely of collegiate standard. These courses would seem to group themselves into four divisions:

1. Those which are primarily cultural.
2. Those which are fundamental to medicine—(the pre-clinical group).
3. Those in which there is overlapping between medicine and nursing—(the clinical group).
4. Those which pertain primarily to nursing—(nursing technique, history, ethics, etc.).

Having these four groups in mind, a curriculum might well be prepared which, together with such practical experience as may be found necessary, would merit a college degree and which would qualify the student for responsible work in the field of nursing.

Opportunity for research and for postgraduate study in some of the special fields of nursing should also be provided.

The relation of the medical school to such courses would, in large part, depend, on the general organization of the university. In some universities, the school of nursing may be a separate entity, numbering on its faculty some of those who are also on the faculty of the School of Medicine. In others, the medical school may assume responsibility for the conduct of such courses, and for that purpose there would be added to the faculty of the college such additional members from the field of nursing as may be indicated.

In other instances, the academic control may be lodged in the College of Arts and Sciences in which case faculty members would be added from the School of Medicine and the nursing field.

The specific relation is not deemed to be so important as is the assumption that medicine desires to cooperate with nursing in the development of its field and in making available such opportunities as now exist in the School of Medicine that will make for the development of teachers and administrators in the field of nursing.

If the Association desires that a more intimate study and report be made concerning the interrelationships between medical colleges and nursing schools, the curricular content of collegiate standard courses as suggested herein, or more definite details on possible methods of administration, it is recommended that either this Committee or another Committee be so instructed.

(Signed) A. C. BACHMEYER, Chairman
A. M. SCHWITALLA

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DR. FRED C. ZAPFFE, Editor, 25 East Washington Street, Chicago

The New Orleans Meeting

The forty-second annual meeting of the Association, held in New Orleans, November 30, December 1 and 2, was epoch making in several respects: First, it was the first meeting in the South in twenty-eight years. Second, it marked the entrance on a new era so far as the activities of the Association are concerned.

The attendance was very good, considering the geographical location of the place of meeting, which made traveling rather expensive for most of the schools represented, and the fact that some schools could not be represented because of curtailment of travel funds. Nevertheless, fifty-nine schools were represented by one or more delegates, exceeding by one the representation at the Denver meeting.

The program was well received and aroused the usual keen interest in the proceedings. The discussions of the papers were not as spirited as at other meetings, but, perhaps, the wet, soggy atmosphere may have been responsible as most of those present had left crisp, clear cool weather at home. Certainly, the local arrangements for the meeting, for which Dr. C. C. Bass was responsible, were not to blame. They were faultless and went on to fulfillment without a single hitch. Everybody felt that he was well cared for. The small group of ladies present were loud in their praises of those who cared for their entertainment and pleasure. The management of the Hotel Roosevelt also merited commendation for the care taken of the delegates to the meeting.

Besides mapping out an extensive program for educational research, the Association continued the committees on aptitude test; the intern training committee; the nursing school committee. The study of student accomplishment in medical schools during the first year was ordered continued, and the study of applicants for admission to medical schools was ordered resumed. The analysis of entrance credentials, which has been carried on for the past three years, was deemed of sufficient importance to be continued, especially as it can be correlated with the study of accomplishment and the aptitude test.

The Committee on Educational Policies reported on a plan for conducting further studies after graduation for those who desire to enter practice in special fields of medicine. The report of this committee is published elsewhere in this issue (p. 42).

The Committee on Intern Training was not ready to report and was given further time. The Committee on Nurses Training Schools reported (pp. 43 and 44) and was continued.

The following officers were elected: President, Louis B. Wilson, Mayo Foundation, Rochester, Minn.; vice-president, H. G. Weiskotten, Syracuse University, Syracuse, N. Y.; secretary-treasurer, Fred. C. Zapffe, 25 East Washington Street, Chicago, Ill.; members of Executive Council for two years, C. C. Bass, Tulane University, New Orleans, and G. Canby Robinson, Cornell University, New York City.

The chairman of the Executive Coun-

cil for the ensuing year is Alexander S. Begg, Boston University, Boston.

Philadephia was chosen as the next place of meeting. The time of meeting has been set for Monday, Tuesday and Wednesday, November 7, 8 and 9, 1932. Further details regarding the meeting will be published in the JOURNAL from time to time.

George Roger Albertson

George R. Albertson, dean of the School of Medicine, University of South Dakota, died suddenly Nov. 3, 1931, at Sioux Falls, S. D., while attending a Masonic dance given at the Coliseum. Death was due to a very recently formed thrombus involving the left middle cerebral artery and a portion of the left carotid artery.

Dr. Albertson was born in Moline, Ill., December 24, 1886. He graduated in medicine from the State University of Iowa College of Medicine in 1910, and received his M. S. degree in 1912. He served his alma mater in the capacity of assistant demonstrator of anatomy while pursuing work leading to the M. S. degree. In 1912 he came to the School of Medicine of the University of South Dakota as professor of anatomy. In 1916 he received his A. B. degree from the University of South Dakota. Following the death of C. P. Lommen, dean of the School of Medicine, in 1927, Dr. Albertson was appointed to fill the vacancy thus created.

Committee to Study the Teaching of Surgery

As the result of a special session devoted to the reading of papers on the teaching of surgery, arranged at the suggestion of the secretary of this Association for the American College of Surgeons on the occasion of its twenty-second annual convocation, the College has appointed a committee to study this problem over a period of two years.

The members of this committee are: Fred. C. Zapffe, Irving S. Cutter, George J. Heuer, Elliott Cutler and Allen O. Whipple. The committee will consider the teaching of surgery in undergraduate, graduate and postgraduate schools. The first report will be made at the next convocation of the College which will be held in October, 1932.

CORRECTION: In the paper by Dr. Chas. B. Reed, entitled, "Manikin Practice in Midwifery Teaching," published in the November issue of the JOURNAL, the percentage figure, 2.3, in the first line of the last paragraph should read 25 per cent.

College News

University of Cincinnati College of Medicine

The preceptor system will be used this year. After the next year each freshman student will be assigned to a member of the faculty. Not more than two students will be assigned to one man. It is the intention that each preceptor shall continue to serve as such for the student assigned shall continue to serve as such for the student assigned to him throughout the entire medical course of five years. This would mean that each preceptor might have as many as ten students in his charge. He would be sure of five.

University of Arkansas School of Medicine

George Lewis has been elected professor and head of the department of surgery; A. F. DeGroat has been appointed professor of pathology.

University of Pennsylvania School of Medicine

Faculty appointments: Stuart Mudd, associate professor of bacteriology; Donald M. Pillsbury, assistant professor in dermatology; Roy G. Williams, assistant professor in anatomy; Joseph Stokes, Jr., assistant professor in pediatrics; Edward A. Strecker, professor of psychiatry.

Duke University School of Medicine

During November, 1931, Dr. R. W. Hegner, of Johns Hopkins School of Hygiene, lectured at Duke Hospital on parasitology; Dr. Louis B. Wilson, Director of the Mayo Foundation, addressed the students and staff; Dr. Eugene F. DuBois, professor of medicine in Cornell University School of Medicine, gave a clinic on metabolic factors in hyperthyroidism and typhoid fever.

At a meeting of North Carolina pediatricians, held at the Duke Hospital on November 13, the North Carolina Pediatric Society was organized.

The regular meeting of the Durham-Orange County Medical Society was held on the same date at the Duke Hospital and Dr. J. C. Gittings, professor of pediatrics in the University of Pennsylvania School of Medicine, spoke on tuberculosis in childhood.

University of Virginia Department of Medicine

The eighth postgraduate clinic, conducted by members of the medical staff, was held at the University Hospital, October 22 and 23. Forty-five physicians were in attendance.

Eugene L. Opie, director of the Pathological Laboratory of the Henry Phipps Institute in Philadelphia, delivered the first of a series of Alpha Omega Alpha medical lectures on November 9. The lecture was on tuberculosis.

E. K. Marshall, professor of physiology at the Johns Hopkins Medical School, spoke before the University Medical Society on November 9. His subject was renal function.

Tufts College Medical School

Faculty appointments: Sydney C. Dalrymple, instructor in pathology.

Promotions: Edward K. Ellis, to professor of ophthalmology; M. Garcia Banus, to associate professor of physiology.

Allen Greenwood, professor of oph-

thalmology, has become professor emeritus.

Five scholarships will be awarded annually to students who pledge themselves to practice for at least three years in rural communities after their graduation.

The William Harvey Society of Tufts College Medical School was organized by the students, its purpose being to further interest in the art of medicine. Membership in the society is limited to students in the school. They elect a governing board which develops the program and conducts the business of the organization. There is an advisory board consisting of nine members of the faculty. Members of the medical profession are invited to attend the meetings of the society, which are held once each month during the school year in the auditorium of the Beth Israel Hospital, Boston. The second annual lecture course has been announced.

Louisiana State University School of Medicine

Faculty appointments: John Signorelli, professor of pediatrics; Ludo von Meysenbug, professor of clinical pediatrics; George S. Bel, honorary professor of medicine; Clarence P. May, assistant professor of neuropsychiatry, and Howard Horace Beard, Ph.D., professor of physiologic chemistry.

Physical Examinations at University of Pennsylvania

All freshmen entering the various colleges of the University of Pennsylvania this fall received a complete physical examination as part of the newly organized student health service, which opened this year under the direction of Dr. Harry D. Lees. If the examination disclosed defects in a student so serious as to render it unwise for him to continue the university course, he was advised in time to make the necessary adjustment before the opening of classes. All defects were recorded and efforts are being made to have these corrected.

Stanford University Medical School

Professor Henry E. Sigerist, Director of the Institute on the History of Medicine of Leipzig, who is now in this country, will assist in the dedication of the historical section of the Lane Medical Library and will give two lectures on the history of medicine, Jan. 11, 12 and 13, 1932.

University of Toronto

Sir Charles S. Sherrington, Waynflete professor of physiology at Oxford, has been awarded the Charles Mickle Fellowship in recognition of his research on the brain and nervous system. This fellowship, which is the annual income from an endowment of $25,000, established by the late Dr. W. J. Mickle, is given annually to the member of the medical profession who is believed to have done most during the preceding ten years to advance practical knowledge of medical art or science.

Frederick G. Banting, professor of medical research, received the honorary degree of doctor of science at the annual convocation of the University of the State of New York last October.

University of California School of Medicine

Gifts for research: $5,000 by the Carnegie Corporation of New York for the research of Edward C. Tolman in psychology; $1,500 by W. H. Crocker for pediatric research by William P. Lucas in the medical school; $675 by Eli Lilly and Company, Indianapolis, for research in anatomy and pharmacology; $500 by the National Research Council for the

work of Bennet M. Allen on thyroid glands, and $600 by E. Charles Fleischner Endowment Fund, San Francisco, for its fellowship in the communicable diseases of childhood.

Eclectic Medical College

This college, situated in Cincinnati, Ohio, reopened its doors last Fall and admitted thirty-five freshman students. A campaign to raise an adequate endowment fund is now under way.

The old buildings have been remodeled and equipped to carry on the teaching of the first year class. An outpatient department is in operation. The clinical contact is made at the Cincinnati General Hospital.

State University of Iowa

A $20,000 addition to the University Children's Hospital was completed recently. The new wing will house the orthopedic clinic, the dental clinic, the drug department and the business office.

Long Island College of Medicine

Promotions: Benjamin Kramer, Paul L. Parrish and Murray B. Gordon, professors of clinical pediatrics; Edwin H. Fiske, Robert F. Barber and William Linder, professors of clinical surgery; Charles A. Gordon and Joshua Ronsheim, professors of clinical obstetrics and gynecology; Francis B. Doyle, George Kornfeld, Samuel G. Blum and Mervyn V. Armstrong, assistant professors of clinical obstetrics and gynecology; DeForest T. Layton and George H. Lordi, assistant clinical professors of medicine; Samuel Linder and William Wolfson, assistant clinical professors of surgery; Edward E. Hicks, assistant clinical professor of neurology; Silik H. Polayes, assistant professor in pathology.

H. Sheridan Baketel, professor of preventive medicine and hygiene, and Alfred Potter, professor of dermatology, have resigned. Each became professor emeritus in his department.

Indiana University School of Medicine

The new $250,000 unit of the James Whitcomb Riley hospital for children, a part of the Indiana university hospitals in Indianapolis, was dedicated by Rotarians, presented to the University, and opened to the public on Sunday afternoon, Nov. 15. The Indiana Riley Memorial Rotary committee was in charge. It is to be a convalescent home for children and is situated west of the main structure of Riley hospital and directly north of the Ball Nurses' Home at the University's medical center.

Through a bequest of Guilford A. Deitsch, the Indiana University Medical Center has received a trust fund of $350,000. The trustees of the university, under the terms of the trust, are authorized to use the income from the trust fund for any purpose they may designate, in connection with the medical school and hospitals.

Matthew Winters has been named chairman of the division of pediatrics in Riley Hospital, and Lyman Meiks becomes the full time pediatrician.

Temple University School of Medicine

Appointments: Louis Tuft, associate in immunology and chemotherapy; Edward J. Holland and Sydney Shapin, clinical assistants in otology; Joseph Levitsky, clinical assistant in pediatrics; Philip Weinstein, clinical assistant in rhinolaryngology; Paul F. Bremer, M. I. Lifshitz, A. J. Brown and I. Stalberg, clinical assistants in cardiology; Z. B. Newton, instructor, and Francis J. Kow-

nacki, clinical assistant in obstetrics; Hugo Roesler, formerly on the staff of the University of Vienna, was appointed assistant professor of radiology; Jacques Guequierre, lecturer in dermatology and syphilology; Reuben Friedman, instructor in dermatology and syphilology; Marshall M. Menzies, clinical assistant in rhinolaryngology; Thomas F. Gowen, clinical assistant in medicine; Charles Bordin, clinical assistant in pediatrics.

Promotions: Robert F. Sterner, to instructor in physical diagnosis; J. Marsh Alesbury to associate in obstetrics; Glendon F. Sheppard to demonstrator in obstetrics; Morris Franklin and Phillip Fiscella to instructors in obstetrics; H. Tuttle Stull to associate in roentgenology; George W. Deitz to associate professor of cardiovascular diseases of children; Harry S. Snyderman to associate in pediatrics; Alexander Silverstein to associate in neurology; Edward C. Davis to assistant professor in proctology; T. Carroll Davis to assistant professor in rhinolaryngology; Samuel Goldberg to clinical professor in pediatrics.

University of Vermont College of Medicine

During the 1930-1931 college year twelve members of the junior class completed a course in obstetrics at the New York Lying-In Hospital, and seven others finished a similar course at the Berwind Clinic. The course given at the Lying-In Hospital consists of one week of observation, during which the student observes normal and abnormal cases, attends lectures, witnesses post-mortems, operations, demonstrations in the museum, and makes ward rounds. The work of the second week consists of antipartum clinic, postpartum calls on patients who were delivered in their homes, and in assisting in deliveries. The work of the third week is that of delivering both in the home and in the hospital. Each student is expected to become thoroughly familiar with the Gwathmey procedure for the amelioration of labor pains.

The course at the Berwind Clinic is similar but of two weeks duration only.

George Washington University School of Medicine

The school has recently organized a faculty, in contra-distinction to the teaching staff.

The faculty consists of the executive officers of the following departments: Anatomy, George B. Jenkins; bacteriology, Earl B. McKinley; pathology, Oscar B. Hunter; biochemistry, Joseph H. Roe; pharmacology, George B. Roth; medicine, Walter A. Bloedorn; dermatology and spyhilology, Charles A. Simpson; pediatrics, Harry H. Donnally; radiology, Arthur C. Christie; psychiatry, William Alanson White; neurology, Walter Freeman; surgery, Charles S. White; otorhinolaryngology, William B. Mason; ophthalmology, William T. Davis; urology, Francis R. Hagner.

The executive officers for the departments of physiology, obstetrics and gynecology and hygiene and preventive medicine are to be announced later.

The new faculty will formulate the future policies of the institution and develop plans for the new George Washington University Medical Center.

University of Chicago Clinics

By action of the board of trustees, University Clinics, the University of Chicago, have been incorporated within the division of biological sciences, and placed under the administration of the dean of the division. As a part of the reorganization, Dr. Franklin C. McLean has resigned as associate dean of the division

but will remain in the office of the dean as director of University Clinics. He also retains his professorship in the department of medicine, but with the appointment of Dr. Oswald H. Robertson as acting chairman of that department he has withdrawn from the administrative affairs of the department.

The university also announced the appointment of Dr. Frederick W. Schlutz as the first Richard T. Crane professor of pediatrics. This professorship was endowed in 1916 by the Crane family, but no appointment has been made heretofore, pending the organization of the clinical departments on the campus.

A health service program for the staff and employees of the clinics group was approved by the board of trustees and became effective December 1. The program will be administered by the University Health Service under the direction of Dr. Dudley B. Reed. The contribution of one dollar a month to be deducted from their salaries will be required of all employees. This money will form a fund to be used only for meeting the costs of medical and hospital service to the individual participants in the plan. The plan will be obligatory for all new appointees and reappointments with no exceptions; participation in the public health aspects of the plan will be obligatory for all present employees and full participation, including monthly payments, will be required of all present staff and employees, unless specifically exempted.

The benefits to be derived include:

1. All services performed in the outpatient department of the health service; that is, ambulatory medical care.

2. House calls in the district bounded by Fifty-third Street, Cottage Grove Avenue, Sixty-third Street and Lake Michigan.

3. X-rays and consultations with other clinics as directed by the health service staff.

4. Refractions (not including glasses).

5. Elective correction of remediable defects after the beneficiary has been a participant in the plan for not less than one year.

6. All necessary hospital expenses up to two months of hospital care, for conditions commonly cared for in the University of Chicago Clinic. This covers accommodations at minimum rates. More expensive accommodations may be occupied, the difference in cost to be met by the individual.

College of Medical Evangelists

The fourth annual series of medical lectures under the Colver Lectureship was delivered by Dr. Alonzo E. Taylor, director of the Food Research Institute of Stanford University, Nov. 17, 18 and 19, 1931. The general topic of these lectures was, "The General Relations of the Food Supply."

New York University

Gifts for medical research:

Commonwealth Fund, $5,000 for research in rheumatic fever under direction of Dr. William H. Park; $1,750 to Dr. Park for investigation on antipneumonia serum; $1,750 for the Clinical Pediatrics Research Fund in Pneumonia, under direction of Dr. Charles Hendee Smith.

Harriman Research Fund, $8,750 additional for that fund.

Anonymous donor, $10,000 for the Neurological Research Laboratory Fund.

R. T. Crane, Jr., $5,000 for the department of therapeutics.

International Committee for Study of Infantile Paralysis, $3,000 for study of infantile paralysis under Dr. Park.

Josiah Macy, Jr., Foundation, $3,000 for study of chorea under Dr. Smith.

Chemical Foundation, $1,000 for research on pneumonia.

Health Products Corporation, $1,000 for the Pernicious Anemia Fund.

South Carolina Food Research Laboratory

The Medical College of the State of South Carolina is in receipt of a grant of $13,000 from Mr. Bernard M. Baruch to aid in its investigations into the relation of diet to the etiology of simple goiter.

Wisconsin Alumni Foundation

This foundation, established in 1925, is the only one of its kind in existence at any university or college. Its purpose is to promote, encourage and aid scientific investigations and research at the university and to assist in providing the means and machinery by which the scientific discoveries and investigations of the staff may be developed and patented and the public and commercial use thereof determined, and by which such utilization may be made of such discoveries and inventions and patent rights as may tend to stimulate and promote and provide funds for further scientific investigations and research within the state university.

Johns Hopkins University

The new medical and surgical building was completed at Johns Hopkins Hospital in November. Half of the building is known as the Osler Clinic, the other half as the Halsted Clinic. These clinics are memorials to the late Dr. William S. Halsted, first professor of surgery, and the late Sir William Osler, first professor of medicine at the Johns Hopkins University School of Medicine.

The addition, which provides about 300 beds, will house only ward patients. The building cost $1,740,000, provided by a gift of $500,000 from the General Education Board and an appropriation from an anonymous gift of $3,000.000.

Indiana University School of Medicine

A Research Committee of the Indiana University School of Medicine has been appointed, consisting of Hugh McK. Landon, of the Fletcher Savings and Trust Co.; Peter C. Riley, president, Republic Creosoting Co., which has one of the best equipped research laboratories of the Middle West; and Eli Lilly, of Eli Lilly & Co., leaders in pharmaceutical research; Acting Dean W. D. Gatch; Dean Burton D. Myers; and Professor R. E. Lyons, of the Department of Chemistry.

The Committee will control the income from $200,000 set aside by the will of Mrs. Hugh McK. Landon, the income from the Louis C. Huesmann memorial of about $65,000, and important annual gifts from Eli Lilly & Co.

Grants will be made from these funds for promotion of well-defined research projects, a written statement of which must be presented to the Committee.

Long Island College of Medicine

Dr. Frank L. Babbott, Jr., will be installed as president of the college on January 14, at the Academy of Music, Brooklyn, N. Y.

Personals

Erwin von Graff has been appointed professor of obstetrics and gynecology at the State University of Iowa College of Medicine, Iowa City.

M. Allen Starr, professor of neurology in Columbia University, was made an honorary member of the International Neurological Congress.

Emily Lois Van Loon has been appointed acting head of the department of otolaryngology and bronchoscopy at the Woman's Medical College of Philadelphia, succeeding the late Margaret F. Butler. David H. Bergey, formerly professor of hygiene and bacteriology, University of Pennsylvania School of Medicine, has been appointed director of research in biology for the National Drug Company.

Henry A. Shaw has been appointed assistant professor of mental hygiene at the Harvard University Medical School.

James Couper Brash has succeeded Arthur Robinson (resigned) as professor of anatomy in the University of Edinburgh Medical School.

Albert E. Roussel, professor of medicine, and James E. Talley, professor of cardiology in the University of Pennsylvania School of Medicine, have been made "professors emeritus."

Esmond R. Long, professor of pathology at the Graduate School of Medicine of the Division of Biological Sciences, University of Chicago, has resigned. The resignation will become effective July 1, 1932. Dr. Long has been appointed director of laboratories of the Phipps Institute of the University of Pennsylvania, Philadelphia.

Ewen M. MacEwen, professor of anatomy, University of Iowa College of Medicine, Iowa City, has been appointed head of the department to succeed the late Henry J. Prentiss.

Allen O. Whipple, professor of surgery in Columbia University, was appointed Valentine Mott professor of surgery, a newly established position.

Israel S. Wechsler, New York, was promoted to professor of clinical neurology in Columbia University.

Russell A. Hibbs has resigned as professor of orthopedic surgery in Columbia University.

Philip Drinker, assistant professor of ventilation and illumination, and Louis Agassiz Shaw, instructor in physiology, Harvard School of Public Health, Boston, joint inventors of the "Drinker respirator," received the John Scott Award administered by the Philadelphia Board of City Trusts at a meeting at Franklin Institute, November 18. Each received a copper medal, and the honorarium of $1,000 was divided between them.

Professor Henry E. Sigerist, Director of the Institute on the History of Medicine of Leipzig, Germany, will assist in the dedication of the Historical Section of the Lane Medical Library, San Francisco, and will give two lectures on the History of Medicine at the Medical

School of Stanford University, Jan. 11, 12 and 13, 1932.

Dudley A. Robnett, associate professor of pathology in the University of Missouri School of Medicine, has been appointed associate professor of surgery.

Cyrus C. Sturgis, professor of medicine in the University of Michigan Medical School, served the Emory University School of Medicine as professor of medicine pro tempore the week of October 26, 1931.

John J. Abel, since 1893 professor of pharmacology in Johns Hopkins University School of Medicine, has resigned. He will devote his time to research.

William D. Cutter, formerly secretary of the Board of Medical Examiners of the State of New York, later dean of the School of Medicine of the University of Southern California, has been elected secretary of the Council on Medical Education and Hospitals of the American Medical Association to succeed Dr. N. P. Colwell who was retired on account of poor health.

J. Bentley Squier, professor of urology in the College of Physicians and Surgeons of Columbia University, was elected president of the American College of Surgeons.

Nelson McLaughlin, Detroit, succeeds F. C. Warnshuis as secretary of the Michigan State Board of Registration in medicine.

Clarence C. Pflaum, formerly instructor in pathology at the University of Minnesota School of Medicine, has been appointed assistant professor of pathology at the University of Missouri School of Medicine.

Deaths

William E. McVey, former dean of the now extinct Medical Department of Washburn College, died, aged 67.

Stephen Grover Burnett, at one time professor of nervous and mental diseases in the former University Medical College of Kansas City, died, aged 69.

John Whittridge Williams, professor of obstetrics in Johns Hopkins University School of Medicine, died in October, following an operation. He was 65 years of age.

Margaret F. Butler, professor of otolarygology in the Woman's Medical College of Pennsylvania, aged 70, died suddenly in the operating room while performing a tonsillectomy.

John J. Dunphey, instructor in pediatrics in Tufts College Medical School, died in October, aged 38.

J. Madison Taylor, professor of physical therapeutics and dietetics at Temple University, died in October, aged 77 years.

General News

Board for Advanced Medical Education

The annual report of the Committee on Medical Education of the New York Academy of Medicine states that the Subcommittee on the Training of Specialists has found that most of the efforts made to raise the standard of specialists consist in demanding certain minimum requirements of candidates before they are considered eligible for admission to membership in various national organizations.

The subcommittee concluded that it is important to provide opportunities for study and practical work for all those desirous of entering a specialty. Provision for these opportunities for advanced study and experience is to be secured through the coordinated assistance of deans of medical schools and representatives of selected hospitals. To this end the "Board for Advanced Medical Education" has been formed. This board will establish minimum requirements for the training and experience in the various specialties, and in cooperation with the medical schools and hospitals create opportunities for instruction in the basic sciences and for practical work by means of residencies in the member hospitals.

New York Hospital Staff Plan

The plan of organization of the staff of the New York Hospital, whose new buildings will be completed next year, was recently made public. It provides for five divisions: medicine, surgery, obstetrics and gynecology, pediatrics, and psychiatry. Each will be headed by a chief of staff, who will also hold an appointment in Cornell University Medical College, with which the hospital is affiliated. Each department staff will consist of a central group of physicians on a full-time basis and in addition a larger affiliated group of men who are also engaged in private practice. Provision for a complete private-patient section of the hospital is planned to give facilities for the practice of the latter group. Departments of public health and social service are also to be important parts in the staff organization.

Nobel Prize

The Nobel Prize in medicine and physiology for 1931 was awarded to Professor Otto Warburg, head of the department of biology of the Kaiser Wilhelm Institute, for his work on cellular metabolism.

Research on Drug Addiction

The committee on drug addiction of the National Research Council has granted $14,220 for research work to be conducted at the University of Michigan this year. This work is being done under the direction of C. W. Edmunds and Nathan B. Eddy.

Division of Psychiatric Education

A new division of psychiatric education has been created in the office of the National Committee for Mental Hygiene with the aid of the Commonwealth Fund, the New York Foundation and the American Foundation for Mental Hygiene, all of which are supporting the project. The division is under the immediate direction of Dr. Ralph A. Noble, of Sydney,

Australia. Associated with him is Dr. Franklin G. Ebaugh, director of the Colorado State Psychopathic Hospital.

An advisory committee, composed of leading medical and psychiatric educators, will guide the development of the program in general.

The main objectives are to work out further schemes for recruiting and training psychiatric and mental hygiene personnel; to secure more qualified candidates for this work; to appraise and assist in the development and improvement of existing educational facilities; to study existing teaching programs in undergraduate and graduate medical schools; to administer fellowships; to assist in placing trained personnel in university, hospital and community mental hygiene work.

Delivers Sedgwick Lecture

Henry E. Sigerist of the Institute for the History of Medicine, University of Leipzig, Germany, delivered the ninth William Thompson Sedgwick Memorial Lecture in the Massachusetts Institute of Technology, Cambridge, December 1. The lectureship was established to commemorate the services of William Thompson Sedgwick to the cause of biology and public health. It is given annually at the institute under the auspices of the department of biology, which was created by Sedgwick.

Examining Board of Stomatology

A group of dentists and physicians in New York has applied for a charter on which to found an "American Board of Stomatology" similar to boards established in the specialties of otolaryngology and obstetrics and gynecology. Stomatology is defined as "the branch of medical science which treats of the anatomy, physiology, pathology, therapeutics and hygiene of the oral cavity, the tongue, teeth and adjacent structures and tissues and the relationship of this field to the entire body." The board is intended as a liaison organization between medicine and dentistry.

Foundation to Advance Psychoanalysis

The American Psychoanalytic Foundation has been formed in New York for the purpose of fostering psychoanalytic education and science in America. The foundation succeeds the Educational Trust Fund formed by the New York Psychoanalytic Society several years ago. The board of directors of the new organization includes Abraham A. Brill, chairman, Smith E. Jelliffe, Leo S. Bing, Sam A. Lewisohn and Clarence P. Oberndorf, 112 West Fifty-ninth Street, New York, secretary.

New Journal of Physiology

A group of physiologists met at the Morris Biological Farm last October to consider organizing a new Journal of Physiology intended to supplement those already in existence and to relieve certain other journals not devoted primarily to physiological subjects or papers, which take space intended for zoological or anatomical papers.

E. N. Harvey of Princeton University is the managing editor.

Herter Foundation Lectures

The twentieth course of lectures on this Foundation was given by Dr. Major Greenwood, F.R.S., professor of vital statistics in the School of Hygiene and Tropical Medicine of London University in the School of Hygiene and Public Health of Johns Hopkins University, December 2, 3 and 4, 1931. The general subject of the lectures was the applica-

tion of the experimental method to the study of epidemiology.

Teaching Accessory—New Obstetric Manikin

Dr. C. B. Reed, associate professor of obstetrics in Northwestern University Medical School, in his book "Operative Obstetrics on the Manikin" writes, Chapter I, p. 1: "By means of the phantom the various positions and presentations of the child can be demonstrated and the different operations can be so illustrated and studied that considerable skill may be obtained before labors are conducted on the living body."

"Practice on the manikin is the first step toward technical efficiency for the novice and the constant drill stimulates the mind of the expert and suggests refinements and ever new peculiarities in interference which might be overlooked under the pressure of actual experience."

"The external and internal examinations before the onset of labor and many of the diagnostic features of pregnancy can be explained and made familiar to the student. The various forceps operations, version and extraction and some of the difficult methods of delivery which involve the dilation of the soft parts and the destruction of the child can be easily illustrated."

The Clay-Adams Co., New York, announces the production of a new manikin or phantom for this teaching, and will furnish particulars on request.

Andrew W. McAlester Memorial Foundation

The disciples and former students of Dr. Andrew W. McAlester, for many years an outstanding figure in the field of medical education in Missouri, and for a long time dean of the School of Medicine of the University of Missouri, have joined to establish this Foundation to honor and perpetuate his name in service to all the people of the state of Missouri.

The Foundation will function through and under the auspices of the University of Missouri. The curators of the university are the custodians of the endowment funds to be invested by them and the income will be disbursed by the managers of the Foundation. These managers are elected, one from the faculty of the medical school, one from the medical alumni of the university, one from the veterinary department of the School of Agriculture and two from the Missouri State Medical Association. Later, two may be elected from contributing laymen.

The plan of action and its scope encompass any endeavor to teach medicine or health science to lay people. Eventually full time public health men will go all over the state teaching health and preventive medicine in schools and to lay societies; training health units and groups of teachers in colleges. They will cooperate with the state board of health in an educational way to control epidemics and infections in local communities. They will be active in rural communities helping the farmers with their problems relating to the health of animals as well as humans. Writing, lecturing, broadcasting, visual education for the very young and all the varied methods of imparting information may be used. Methods of extension work may also be used. Publication of health bulletins, health columns in the press, every ethical and honest means of educating will be used.

The members of the Board of Managers are: Dr. Frank G. Nigong, chairman; Dr. Arthur R. McComas, Dr. M. P. Ravenel, secretary; Dr. J. W. Connoway and Dr. G. Wilse Robinson.—*J. Missouri St. M. Assn.*, Dec., 1931.

Abstracts of Current Literature

The Medical School: Objectives

One organization there is that must be specifically charged with the development of methods of teaching—namely, the Association of American Medical Colleges. But this earnest group cannot alone achieve the optimum of results. Delegates to its sessions are deans of colleges, teachers in the preclinical sciences with a sprinkling of clinical teachers. Few of these are on the firing line of medicine; in daily contact with the public. It should be said in passing that the deliberations of the College Association have revolutionized for the better teaching methods in practically all departments of medicine. Nevertheless the clinical surgeon who accurately mirrors the end results of training must lend his best thought to a continuing program of teaching advance.

Medical education has been viewed for too long a period as the particular job of those who teach. This view falls far short of the necessities of the situation and the reason is not far to seek.

During the past quarter of a century, American medical schools have progressed at a stupendous rate in point of physical equipment and endowment. It is, however, fairly self-evident that the product of our schools, measured in terms of accomplishment, can scarcely be said to justify, as yet, this enormous outlay in buildings, equipment and endowment. It is generally conceded that the rate of physical expansion has far exceeded growth of planning; of the development of method, with sound principles of teaching. Our rush to acquire magnificent physical plants—some perhaps loaded with an annual operating cost that is staggering, has been illogical. Our knowledge of how to build, what to build and how to utilize what we have built, has not kept pace with our building. Some schools are fortunate in that plant accretions have come gradual, permitting a carefully thought out integration of each new unit with the established whole. Indeed in some few American Universities the building program has so far outdistanced educational development that there is much scrambling for some patent scheme of education that will close the gap.

We cannot explain away our dissatisfaction with our present day methods on the ground that there is too much to do; that the mass of material to be mastered has overwhelmed us. Rather is it a lack of perspective in our view that prevents organization of the curriculum in such a way that the student shall be constantly more alert, more keen, more enthusiastic and less bewildered, less mentally choked by the necessity of the mastery of non-essential detail.

Were it possible, a reversion to the preceptor system would cure most of our pedagogic ills, for after all, our great surgeons of today are those who have received individual instruction at the elbow of a great surgical teacher. So-and-so was a pupil of Halstead, so-and-so a pupil of Dever, of De Costa, of the Mayos, of Cushing, students who lived in the atmosphere of surgery with a master. Perhaps we cannot approach this in our present scheme of undergraduate and graduate training. We can, however, give thought to the problem and muster the interest of this great group.

In our consideration of the future of American medicine and the role of education to assume that the general prac-

titioner is to be eliminated from the picture is unwarranted and unsound and based upon an insufficient knowledge of social trends. Whether the American home is destined to survive or not is beside the question, but the American Medical profession completely, totally, and sharply segregated into special groups would promptly invite into the healing ranks numerous unborn healing cults, as well as stimulate those existing cults that have gained considerable headway. We must, therefore, postulate at the outset a training of the undergraduate for the general practice of medicine and surgery that will insure competent and skilled care for at least two-thirds of our population. We cannot view the problem of the future without a careful study of social trends and economic tendencies. New lines of cleavage are appearing here and there in our social fabric, while economic principles, accepted for generations, are found wanting under the critical application to modern conditions. Unless changes that are occurring in our social and economic affairs are anticipated, medicine will tardily lag where it should lead. The burden falls upon our educational institutions where we assume that new ideas, are not only born but find serious students and receive serious consideration.

Every worker in the field of medicine senses on the part of his public a feeling of unrest, which in some quarters amounts to genuine dissatisfaction as evidenced by the numerous faultfinding magazine articles, largely from lay writers. He senses, too, his own inefficiency, his own inability in the management of numerous problems that come to him. Some of this ineffectualness arises from the fact that no phase of medicine is an exact science. On the other hand, a part of his inability to cope with every situation is due to his training and this it is that constitutes the problems which the American College of Surgeons can help to solve.

Medical Schools are not factories turning out a standardized product. There are no moulds or dies which stamp true to pattern; hence there is no one best plan of medical training. Schools are endeavoring with a superior type of American youth, to preserve and stimulate individual thinking and to offer advantages for self-education. We have at least taught the majority of our students that the undergraduate course does not and cannot train them for the definite practice of general surgery. Most students now realize that training for surgical practice requires several additional years of intense application under a wise master. Advances in medical education to be permanent and worthy cannot come as the result of a crusade; a whirl-wind campaign with a clean-up at the end. On the other hand careful accurate painstaking studies will avail much.

The American College of Surgeons has accomplished a huge task in accrediting and standardizing hospitals, surgical procedures and the like, but these worthy objects are but the shell or husk of the vital problem; namely, the future development of American medicine. Picture if you will each of our hospitals a teaching center with medical students, perhaps, certainly interns, staff, nurses and personnel, a center not only for professional, but lay education with definite objectives. How many of our hospitals staffs are accepting, nay demanding, interns to teach? The intern period to the student is or should be the most valuable period of his life, and yet are the staffs of all of our hospitals rising to the rare opportunities which are theirs? To fire a staff with enthusiasm for teaching is ofttimes as difficult as to reanimate the dead. Sound, accurate, thorough and interesting teaching of interns is the ob-

ligation of every staff accepting them.

On the whole, it is my firm belief that the teaching of surgery in American medical colleges is probably better done than is the teaching of medicine. Possibly this is due to the reflex interest of the student, his disproportionate admiration for the brilliant surgeon, and his overemphasis upon things surgical. Nevertheless the teaching of surgery is not good enough, and while a generation must elapse before we can demonstrate our failure or success, we of the present day must take the long focus view of things; we must think long thoughts—I. S. CUTTER. (Paper read before the American College of Surgeons, Oct. 14, 1931.)

Better Education in Preventive Medicine Required

In an address at the opening of the winter session of Charing Cross Medical School, Sir George Newman, principal medical officer of the ministry of health, said that the teaching of medicine and its practice were concerned unduly with end-results. They learned medicine from the final entities of the hospital beds. But disease was a process and to alter end-results they must apply their knowledge at an earlier stage. They must give more attention to preventive medicine. Consider what was happening in England. Such diseases as cholera, plague and typhus had been conquered, though once terrible pestilences. We had an extraordinary control over smallpox and other diseases. Infant mortality had fallen from 150 to 60 per thousand births in a single generation. These amazing victories were not the results of hospital treatment but of preventive medicine. We suggested four ways of encouraging its study: The outlines of hygiene and preventive medicine could be placed before the student in his fourth or fifth year in a series of lectures. In Great Britain this was more fully done in the provincial than in the London schools. The second method was clinics for instruction and demonstration in preventive work. The third, and much the best, was to introduce into the main subjects of the curriculum the preventive principle. Fourthly, there should be an examination in the subject before qualification. Many newly qualified physicians did not appreciate the preventive trend that was now characteristic of enlightened medicine. The real outpost of preventive medicine was the private physician, and the public would soon demand preventive advice from him. The national insurance act, under which 15,000 physicians worked, was passed for the prevention as well as the cure of disease. Was the public getting an effective service? Vast sums were being paid to give it. If the public was not, it was because the physician had not been trained to provide it.—*J. A. M. A.*, London Letter, Nov. 7, 1931, p. 1397.

Book Reviews

Clio Medica

A series of primers on the history of medicine. Editor, E. B. Krumhaar, M. D. Paul B. Hoeber, Inc., New York. 1930. Price per volume, $1.50.

I. The Beginnings: Egypt and Assyria. By Warren R. Dawson, F.R.S.E.

II. Medicine in the British Isles. By Sir D'Arcy Power, F.R.C.S., Engl.

III. Anatomy. By George W. Corner, M. D., professor of anatomy in the University of Rochester.

IV. Internal Medicine. By Sir Humphrey Rotleston, M. D., Regius Professor of Physic in the University of Cambridge, England.

V. Physiology. By John F. Fulton, M. D., Sterling Professor of Physiology, Yale University.

These five books, the first to appear of a large series of similar ones, present in a concise and readable form a number of special phases of the history that underlies modern medical science. Conveniently small and inexpensive, and written by recognized authorities in their chosen field, each volume presents the story of some individualized phase of the history of medicine in such compact, connected, convincing and reasonably complete form that the medical undergraduate, the graduate and, even the layman, will be attracted to a few hours reading, which should prove to be the awakening of interest to a more comprehensive study. The time is auspicious for this venture. The history of medicine is slowly, but surely, finding its way into the medical curriculum as a valuable part of teaching. It serves as an introduction to the presentation of subjects related to the practice of medicine, and bespeaks respect for the art of medicine. Culture in medicine and medical practice is again attracting and receiving attention despite the fact that science for a long time threatened its complete annihilation. The originator of the idea of preparing these books, and the publisher, are to be congratulated on offering the medical student something he will have time to read and to enjoy and to profit by. It is an excellent idea and well carried out.

Nervous Indigestion

By Walter C. Alvarez, M. D., Associate Professor of Medicine, University of Minnesota. Paul B. Hoeber, Inc., New York. 1931. Price, $3.75.

Every medical student will do well to read this most fascinating and practical book. It presents a subject with which he has little familiarity in an entertaining yet instructive manner. The author writes well and he is absolute master of his subject. He does well to stress functional disease, especially nervous indigestion—an exceedingly common and frequently occurring affection which is rarely brought to the student's attention as it should be. It is one of the major problems which he will have to face in practice. This book tells him the how and the why and how to treat it. The chapter headed "suggestions for further reading" is worth the price of the book.

General Bacteriology

By Edwin O. Jordan, Ph. D., Professor of Bacteriology in the University of Chicago, and the Rush Medical College. 10th edition. W. B. Saunders Company, Philadelphia. 1931. Price, $6.00.

This book needs no introduction—and its worth as a textbook for the under-

graduate student is attested to by its well merited popularity. Much new material has been added. The sections on variation, undulant fever, the paratyphoid group, filterable virus diseases, pathogenic yeasts and anaerobes have been entirely revised. The bacteriophage problem is treated with greater detail than before. The nomenclature is dealt with rather summarily. Many minor revisions have been made to bring the work up to date.

Nutrition and Physical Fitness

By L. Jean Bogert, Ph. D., Professor of Food Economics and Nutrition at the Kansas State Agricultural College. W. B. Saunders Company, Philadelphia. 1931. Price, $3.00.

The author's purpose has been threefold: (1) To gather into one volume facts useful in meeting every day nutritional problems; (2) to make this information available to a comparatively large group; (3) to point out how such knowledge may be utilized to prevent ill health and to promote a high degree of physical fitness. The modern physiologic conception of nutrition is stressed. Meal planning and preparation, diets for children and adults, in health and disease, are presented. The author's simple language makes this a valuable book for the undergraduate student.

A Textbook of Neuro-Anatomy

By Albert Kuntz, Ph. D., M. D., Professor of Micro-Anatomy in St. Louis University School of Medicine. Lea & Febiger, Philadelphia. 1931. Price, $5.50.

This book makes the usually complex and intricate study of the anatomy and physiology of the nervous system relatively simple and understandable. Unnecessary minutiae are avoided; anatomic details are correlated with the fundamental structural plan, and the structure of the parts is discussed in the light of the new knowledge of the developmental and physiologic relationships. The reader is given a conception of the human nervous system as a whole, and is acquainted with the simpler reflex and correlation mechanism of the spinal cord and brain stem. Then conduction pathways are introduced. Each pathway is studied in its functional relationships both to peripheral neurons and to the other central pathways. The cerebral cortex is discussed mainly from the standpoint of its phylogenetic development and in the light of the more recent studies of cortical cytoarchitecture and functional differentiation. The autonomic nervous system is treated in a separate chapter and discussions of the cerebrum, the cerebral hemispheres and cerebral cortex, complete the work. This logical and natural organization of material simplifies the study of the subject and adds to the effectiveness of the book.

The Practice of Medicine

By A. A. Stevens, A. M., M. D., Professor of Applied Therapeutics in the University of Pennsylvania. Third edition. W. B. Saunders Company, Philadelphia. 1931. Price, $8.00.

Such deletions as modern teaching methods demand have been made. Many sections have been rewritten and new ones added. The book is valuable from the teaching standpoint, especially in the field of treatment. The mention of dosage and frequency of administration of drugs will appeal to the medical student. The book is not too large to be handled easily.

Demonstrations of Physical Signs in Clinical Surgery

By Hamilton Bailey, F.R.C.S. (Engl.). Third edition. William Wood and Co., New York. 1931. Price, $6.50.

The importance of history and physical methods of examination is stressed, therefore clinical clerks on surgical service will value this book as a distinct aid to study. The more than 300 well made illustrations elucidate the text admirably. The text is concise but clear. Verbosity is wholly absent.

Textbook of Pathology

By Francis Delafield, M. D., LL. D., and T. Mitchell Prudden, M. D., LL. D. Revised by Francis Carter Wood, M. D. 5th edition. William Wood and Company, New York. 1931. Price, $10.

The essential revisions in this edition are made especially in the chapters on the blood, circulatory system, urinary organs and the bones. Many new references have been inserted to recent monographs which give useful reviews of knowledge on some phase of pathology. The usual division of the subject into parts—general and special—is followed. The chapter on making postmortem examinations is very useful and most opportune. The many friends of this book will be well pleased with this revision. Medical students will find it valuable both for study and as a reference work.

Hypertension and Nephritis

By Arthur M. Fishberg, M. D. 2nd edition. Lea & Febiger, Philadelphia. 1931. Price, $6.50.

This is an excellent presentation of this subject. The full and up-to-date review of the literature and the manner of treatment of the whole subject easily place this book at the top in its field as a book for study and reference. The medical student will find it a valuable addition to his working library. It provides clear pictures of the diseases and summarizes all of the information, therapeutic and diagnostic, that practice, clinic and laboratory have revealed.

The Anatomy of the Nervous System

(From the standpoint of Development and Function). By Stephen Walter Ranson, M. D., Ph. D., Professor of Neurology and Director of the Neurological Institute, Northwestern University, Medical School. 4th edition. W. B. Saunders Company, Philadelphia. 1931. Price, $6.50.

This book needs no introduction. In this revision there have been added a series of sections through the brain stem and basal gonglia, each accompanied by a key figure showing the plane in which the section was cut—this lightening the burden placed on the student.

A Manual of Clinical Laboratory Methods

By Clyde Lottridge Cummer, Ph. B., M. D., formerly Associate Professor of Clinical Pathology, School of Medicine, Western Reserve University. 3rd edition. Lea & Febiger, Philadelphia. 1931. Price, $6.75.

This revision makes this manual extremely useful as a textbook for students. Clinical laboratory methods are presented in the most concise and accessible form. Each chapter offers an outline of the routine examinations, a description of the simpler qualitative methods which are most frequently employed, a description of the quantitative methods, all those of more intricate technique and a discussion of the findings in various morbid conditions. When several methods are given, usually the preferred one is indicated.

The section on the Kahn reaction has been expanded and a section has been added describing Kline's reaction. Silver impregnation methods for treponemata have been included, as have the Alzheimer method for studying the cellular contents of the spinal fluid, newer meth-

ods of demonstrating oxydase granules, Newcomer's method for determining the hemoglobin content of the blood, and others. Descriptions are given of cistern puncture, the icterus index, the alcohol test-meal, the sedimentation of red blood cells, the use of histamine in studying the secretion of hydrochloric acid by the stomach, diagnosis of granuloma inguinale, the Queckenstedt test on the spinal fluid, agranulocytic angina, acute infectious mononucleosis, Schilling's simplified method for the Arneth count, leukocyte fragility, agglutination test for tularemia and undulant fever, and has revised the references to bile salts and pigments. A thorough revision of the chapters dealing with blood counting and the histology and pathology of the blood and anemias has been made.

Brain and Spinal Cord

A Manual for the Study of the Morphology and Fibre Tracts of the Central Nervous System. By Emil Villiger, Professor E. O., University of Basel. Edited by William H. F. Addison, B. A., M. D. Professor of Normal Histology and Embryology in the University of Pennsylvania. Fourth revised American edition. J. B. Lippincott Company, Philadelphia. Price, $6.

Neuro-anatomists will welcome this book. Many changes have been made. Thirty new illustrations are added and many old ones replaced. The description of the neuroglia has been amplified. The text on the fibre tracts of the spinal cord, medulla oblongata and cerebellum has been rewritten and other subject matter brought up-to-date. Although the book is not large, it is comprehensive. Students will find the book especially valuable—not only at the time they are studying anatomy, but during their clinical studies in neurology—thus combining the laboratory and the clinic in an easily comprehended and lucid manner. The advanced student and the graduate student can put the book to good use in studying fibre tracts in their relation to various diseases of these parts. The "Selected References" at the end of the book add greatly to its worth.

Heart Disease

By Paul Dudley Wright, M. D., Instructor in Medicine, Harvard Medical School. The Macmillan Company, New York. 1931. Price, $12.

This is a clear, concise and comprehensive presentation of the diagnosis and treatment of heart disease. Details of anatomy, physiology, pathology, pharmacology and instrumental technic are limited to the absolute need. The book is divided into four parts: Part I. Examination of patient and analysis of symptoms and signs. Part II. Incidence, Causes and Types of Heart Disease. Part III. Structural Cardiovascular Abnormalties. Part IV. Disorders of Cardiovascular Function. The treatment of each condition is included in the consideration of that condition. A subject index facilitates reference to any particular drug or therapeutic measure about which information is desired. The book is concerned primarily only with diseases of the heart. Extracardiac vascular diseases are omitted; diseases of arteries and veins are discussed briefly; circulatory disorders having a direct bearing on the function of the heart are included. A bibliographic index, arranged by subjects, and covering nearly 90 pages, makes of this book an outstanding reference work on heart disease. It should have a prominent place in every physician's library.